

THE
TRANSACTIONS
OF THE
ENTOMOLOGICAL SOCIETY
OF
LONDON
FOR THE YEAR 1872.

- I. *Stylopidarum, ordinem Strepsipterorum Kirbii constituentium, mihi tamen potius Coleopterorum Familiae, Rhipiphoridis Meloïdisque propinquæ, Monographia.*
Auctore S. S. SAUNDERS.

[Read July 3rd, 1871.]

Familia STYLOPIDÆ.

Synonyma.

Ordo *Strepsiptera*, Kirb. (a).

Sect. *Diptères Rhipidoptères*, Lamarck (b).

Ordo *Rhipiptera*, Latr. (c).

Fam. *Stylopidæ*, Kirb. (d).

(a) Kirby, Trans. Linn. Soc. Lond., Tom. XI. p. 107, 1813; Westwood, Trans. Ent. Soc. vol. i.-ii., 1834-40; Introd. Mod. Classif. Ins. Tom. II. p. 287, 1840; Siebold, Wieg. Archiv. 1843, p. 137; Newport, Trans. Linn. Soc. Lond., Tom. XX. p. 330, 1847.

(b) Lamarck, Hist. Nat. Anim. s. Vertebr. ed. i. Tom. III. p. 348, 1816; ed. 2, Tom. IV. p. 18, 1816.

(c) Latreille, Reg. Anim. ed. i. Tom. III. p. 584, 1817.

(d) Kirby, Trans. Linn. Soc. Lond., *loc. cit.*, pp. 100, 102, 104; Stephens, Syst. Catal. Brit. Ins. Pars. I. p. 403, 1829; Westwood, *op. cit.*, Gen. Syn. p. 86; Schaum, Catal. Coleopt. Eur. Ed. 2a, Berolini, 1862; Crotch, Catal. of Brit. Coleopt. Cantabrigiæ, 1863; Packard, "Guide to the study of Insects," America, 1870; Sharp, Catal. of Brit. Coleopt. Londini, 1871.

Fam. *Stylopites*, Newm. (*e*).

Fam. *Stylopidæ*, Lacord. (*f*).

The vexed question of the affinities of the *Stylopidæ*, can no longer be considered so difficult of solution as formerly. Kirby's first impression was, that his newly-discovered *Stylops* "from its elytra (which, however, are placed in a very extraordinary situation, being fixed to the sides of the thorax), ought to be a *Coleopterous* insect, "although it seemed" to possess but little of the general habit and character of that class" (*g*). Subsequently, from an error of his draughtsman, in whom he placed the utmost confidence (*h*), he describes these organs as "apparently attached to the coxæ of the anterior pair of legs" (*i*); and again—"Elytra coxis pedum anticorum, ut videtur, affixa" (*k*). Hence, while advert- ing to this as "a circumstance most singular and without parallel in the entomological world," he was not unnatu- rally led to consider these insects as utterly irreconci- lable with any of the existing Orders; more especially when unable to solve the difficulties of their mysterious metamorphoses, and unconscious of any prevailing asso- ciations, on the apparent absence of which he had been prompted to dwell in the first instance.

Had he however been aware that those appendages were really mesothoracical organs; had he known that the little active hexapods since so frequently met with in the larviform females, were in fact their own progeny, in their primary form; and that, moreover, from similar minute pediculiform larvæ many Coleoptera belonging to the *Rhipiphoridæ* and *Meloidæ* are developed: it can hardly be doubtful that Kirby himself would have been fully persuaded that these circumstances furnished the desired clue to their affinities.

(*e*) Newman, "Zoologist," Londini, 1847, p. 1792; Newman, *idem*, Londini, 1850, p. 2684; Schaum, Catal. Coleopt. Eur. Ed. 1a, Berolini, 1852.

(*f*) Lacordaire, Gen. Coleopt. Tom. V. pars. 2, p. 634, 1859.

(*g*) Monogr. Apum. Angl. Vol. II. p. 112, 1802.

(*h*) Trans. Linn. Soc. Lond., Vol. XI. p. 99, 1811-13 (Note). Kirby & Spence, Introd. to Entomology, Vol. III. p. 589, 1826 (Note).

(*i*) Trans. Linn. Soc., *ubi supra*, p. 98.

(*k*) *Ibid*, p. 111.

Thus, the general principles laid down by him in certain rules and formularies as justifying the separation of these insects from other Orders (*l*) are inapplicable, or have rather an opposite tendency, more especially when, even in the absence of all information as to their primary affinities, Kirby already considered their "*metamorphosis nearer to that of Coleoptera*" than to that of any other "*elytrophorous order*" (*m*).

All the arguments which have been suggested in opposition to such an alliance appear to me to have been already triumphantly refuted by Dr. Schaum, as set forth *in extenso* by Lacordaire in his carefully collected details upon this subject (*n*); nor indeed can it be conceived that these primary larvæ, of assimilated forms, should belong to different orders, or expected that (in the great struggle of life, wherein structural characters assume various degrees of development, or become altogether rudimentary, in accordance with functional discipline) they should be endowed with the self-same buccal organs, notwithstanding the differences of their respective habits; whether destined to *penetrate* into the bodies of their larval victims in the first instance, and afterwards to become *external* feeders thereon, as in *Rhipiphorus* (*o*); or to remain comparatively *innocuous* as *internal* dependents upon their foster-parents, as in *Stylops* and its allies; or whether, abjuring the habits of either as alike uncongenial, they are addicted to feed upon the *egg* of their victims in the first stage of their existence, in order to monopolize the *honey-store* of the former in the second stage, as in *Meloë* and *Sitaris* (*p*).

Moreover these organs are found to vary in the same identical species at different periods, according to the respective requirements of larval development. Thus, in M. Fabre's most interesting and elaborate memoir on the

(*l*) Ibidem, pp. 94, 95.

(*m*) Ibidem, p. 108.

(*n*) Lacordairè, *Genera des Coleoptères*, 1859, Vol. V. (part 2) p. 641. Schaum, *Wieg. Archiv.* 1851, II. p. 200. Siebold, *Stettin Entom. Zeit.* 1853, p. 133, idem (Abstr.) *Trans. Ent. Soc. Lond.*, ser. 2, Vol. II. (Proc.) p. 124.

(*o*) Dr. T. Algernon Chapman, *Ann. and Mag. of Natural History*, 4th series, Vol. VI. London, Oct. 1870.

(*p*) Fabre, "*Mémoire sur l'Hypermétamorphose et les mœurs des Meloïdes*," in *Ann. des Sci. Nat. 4e Sér. Zool.* Vol. VII. p. 299, Paris, 1857.

habits of the *Meloïdæ* above referred to, it is shown that in the primary larva of *Sitaris* the mandibles are *acute* and *recurved* ('aigues et recourbées,' p. 317), well adapted for the purpose of lacerating the delicate tegument of the egg (pp. 328, 329), that in their secondary form, as feeders on honey, these organs become small, *obtuse*, and *excavated* or *spoon-shaped* within ('obtusés et excavées au côté interne en forme de cuiller,' p. 335), and that in a subsequent stage, which he designates as "*la troisième larve*," they again revert to a *very acutely pointed form* ('en pointe très aigüe,' p. 341).

Nor under anomalous circumstances of development and metamorphosis, amid diversified conditions and aberrant forms, can it be considered so extraordinary that the *Stylopidæ* should participate with such abnormal types, in their divergence from conventional formularies of organization, although in many respects closely allied with several Coleopterous groups, distinguished from all others by *the same parasitic associations* (*q*), and, so far as hitherto ascertained, by *the same primary larval conditions*, unlike those of any other known race: as with *Myodites* in their rudimentary elytra and neuration of wing; with *Rhipiphorus* and *Emenadia* in the longitudinal folding of the latter; with *Rhipidius* in their eyeless apterous females; with the males of all the aforesaid in their highly developed ramose antennæ; nor less so with *Meloë*, *Sitaris* (*r*), and *Zonitis* (*s*), in their remarkable coarctate pupal metamorphosis, and preliminary larval transformations.

While, therefore, harmonizing with these Coleopterous types in so many points of habit, structure, and analogy, from the first to the last stages of their existence, the additional evidence which time has thus brought to bear upon such intrinsic relations and affinities, may well suffice, in accordance with Latreille's suggestion (*t*), to rescue them from unmerited severance and seclusion.

(*q*) Lacordaire; Gen. d. Coleopt. Tom. V. p. 631.

(*r*) Fabre; *loc cit.*, p. 321 (*Sitaris*); p. 353 (*Meloë*).

(*s*) Giraud; Ann. Soc. Ent. de France; ser. 4, Tom. VI. (1866) p. 494 (*Zonitis mutica*). Fabre; *ubi supra*, Tab. XVII. fig. 9 (?).

(*t*) Tempus ducamus, et dies alteri lucem afferrent. (Gen. Crust. et Insect, Tom. IV. p. 388.)

It may scarcely be fitting to dismiss the subject of these affinities, without adverting (however briefly) to the arguments which have been advanced, from time to time, as justifying the association of this family with various orders, or indicating connecting links with several of them.

Although the relations suggested in this respect have, in fact, been so numerous and complex, as almost to have rung the changes throughout these orders; it was reserved for a distinguished entomologist of late, to complete the series, by absorbing the *Stylopidæ* into his *Neuroptera*, as a family allied to the *Phryganeidæ* (u).

Dr. Gerstäcker had already repudiated the primitive larval and metamorphic affinities of the *Stylopidæ* with the *Meloïdæ* (unknown to former writers, prior to the interesting discoveries of Siebold in 1843, of Newport in 1847, and of Fabre in 1857, elsewhere referred to), because in the one case, the larvæ subsist upon the bodies of their victims, and in the other upon their honey-store (x).

But the self-same primitive larval analogy has more recently been detected in the Coleopterous parasite of the Wasp, as recorded by Dr. Algernon Chapman in his "Life History of *Rhipiphorus paradoxus*" (y), which may well serve to reconcile all scruples as regards the twofold associations of the *Stylopidæ* with the *Rhipiphoridæ* on the one hand, and with the *Meloïdæ* on the other.

Previously, however, to this discovery, our lamented member, Dr. Schaum, had confuted, with his usual ability (z), the objections raised by Dr. Gerstäcker as to the alleged incongruity of any such relations; rebutting the arguments advanced in support of their transfer to the *Neuroptera*; and calling attention to the striking analogy subsisting between the former and the larviform females of *Rhipidius blattarum*, whose primitive larvæ (still unknown) may not improbably be found to correspond with those of *Rhipiphorus* (*Metæcus*, Gerst.), *Meloë*, and *Sitaris*.

(u) Handbuch der Zoologie, Tom. II. p. 78, 1863. 3. Zunft. *Strepsiptera*, Kirby (*Rhipiptera*, Latr.), Fächerflügler. 5 Fam. *Stylopidæ*, Kirby.

(x) Wieg. Archiv. 1861, p. 328.

(y) Ann. and Mag. of Nat. Hist. ser. 4, Vol. VI. p. 314, 1870.

(z) Wieg. Archiv. 1863? p. 145.

I also possess a female of the allied genus *Myodites*, to the body and legs of which fifteen hexapod larvæ, differing from any hitherto met with, are firmly attached.

On the other hand, it would seem difficult to conceive how the *Stylopidæ* can be considered by Dr. Gerstäcker as a Family naturally associated by its essential characters ("schliesst sich durch ihre wesentlichen Charaktere naturgemäss") with the *Neuroptera* in general, and the *Phryganeidæ* in particular (a).

Nothing, in fact, can be more dissimilar in their structure and adaptation than the stunted, leathery and veinless mesothoracical appendages ('Stummeln') of the former, as compared with the expansive membranous corresponding organs of flight, with branching veins, of the latter, unless exceptionally rudimentary in both pairs, as Dr. Schaum has pointed out (b); nor less so, the remarkable characteristic differences in the antennæ, which are long, setaceous ('borstenförmig') and multiarticulate in the *Phryganeidæ*; while also utterly irreconcilable in their aquatic habits, their peculiar self-constructed larval abodes, their independent existence, and entire series of transformations from ovum to imago.

Little attention has hitherto been paid to the neuration of the wings (c) in Strepsipterous insects; nor indeed has much regard to accuracy been observed in the delineation thereof. In the figures of *Xenos Peckii* by Bauer, in 1811 (d), and of *Xenos Rossii*, K. (*X. vesparum*, Rossi) as supplied by Jurine in 1816 (e), the neuration essentially differs; nor have any verbal explanations thereof been afforded in either case.

Curtis has supplied a description of the wings of his *Halictophagus* (1832); but scarcely in an intelligible form, without the aid of the figure itself to interpret his meaning; while in his *Stylops Dalii* (1828) this character is hardly noticed, and only indefinitely adverted to in his *Elenchus* (1831). But although these wings are, in all

(a) Handbuch; p. 79.

(b) Wieg. Archiv. *loc. cit.*, p. 147

(c) I have applied to the *veining of the wings* throughout, the designation of "neuration," "neura," &c.; in order to be consistent with the references made herein to Kirby's names for these veins, without alteration.

(d) Linn. Trans. *loc. cit.*, Tab. IX. fig. 1.

(e) Memorie della R. A. delle Scienze di Torino, Tom. XXIII. p. 50, 1818.

cases, constructed more or less in accordance with one uniform type, it is fitting that some general principles should be laid down, whereby comparisons may be instituted, and all definitions framed upon a common basis.

Among the wings of the several orders of insects, set forth with the utmost care and precision by Kirby and Spence, in their celebrated "Introduction to Entomology" (Vol. III. Pl. X), the only example affording any obvious analogy in this respect, is that of the Coleopterous type (fig. 4).

In this indeed, as notably described in the text itself (p. 626), "the first thing that strikes the physiologist in surveying a wing belonging to an insect of this order, is the general arrangement of the *nervures*; which are so placed that the required degree of tension may be given to every part of this organ: thus, some are nearly *straight*; others run in a *serpentine* direction; others are *forked*, with one branch recurrent and another proceeding onwards; others again are *insulated*, or do not originate from the base of the wing, or from other *nervures*, but are merely placed to strengthen an open space of it. Another striking circumstance with regard to them is, that the *nervures* form few or no closed areolets, except in the costal area, where they are inconspicuous." Who would not suppose, after careful comparison, that this lucid description of a Coleopterous wing had been expressly founded upon one of the *Stylopidæ*, as the selected type?

Kirby elsewhere observes (*f*) that in the latter, "the veining of the wings is very simple," and that "in this they somewhat resemble the Coleopterous genera" (*Hister*, *Necrophorus*, &c.) which he quotes; but while noticing also that "they fold longitudinally," it is remarkable that he should have been led to look rather to the *Orthoptera* than to the *Rhipiphoridae* for an affinity in this respect.

In proceeding to a more minute examination of the several *nervures*, as adverted to by Kirby and Spence in their Synoptical Table of Nomenclature (p. 353) and in the subsequent description of the *nervures* themselves (pp. 374, 375, 626), we find, in the first instance, that in the metathoracic wing of the *Stylopidæ*, the *costal* *nervure* (*neura costalis*) is thickened at its base in

(f) Linn. Trans. Vol. XI. p. 101.

conjunction with the short *mediastinal* nervure, more or less separate and distinct in itself; followed by the *post-costal*, furcating at its base with the *externo-medial* or “*third principal nervure of the wing*,” traversing the disc more or less, and corresponding (as it would seem) with what Kirby has described as the “transverse fold in the middle” of a Coleopterous wing (Linn. Trans., *l. c.*, p. 101); in some instances continued to the exterior margin, as in *Myodites* and *Rhipiphorus*.

Kirby and Spence divide the fore-wing into three areas, namely the *Costal* (*Area costalis*), the *Intermediate* (*Area intermedia*), and the *Anal* (*Area analis*); the *first* of which comprises (in *Coleoptera*) “that part of the wing lying between the anterior margin and the postcostal nervure:” the *second*, “that part of the wing lying between the costal area and the anal nervure:” and the *third*, “that part of the wing which lies between the anal nervure and the posterior margin.” The *externo-medial* nervure as aforesaid may serve to divide this intermediate area into two sections, which I have defined in the following pages as the *upper* and *lower* intermediate areas (*area intermedia superior* and *inferior*); the former of which is usually furnished (as in *Myodites* and *Rhipiphorus*) with *two insulated nervures*, either *double* or *single*, extending backwards from the exterior margin, though not always in connection therewith; situated between the costal area and the transverse *externo-medial* nervure; the *first* being near the apex of the wing and nearly parallel to the costa (*neura prima insulata apicalis*); and the *second*, between the first and the *externo-medial* (*neura secunda insulata discoidalis*), usually longer than the first, and frequently brought into close proximity with the *externo-medial* itself, so as to appear in some cases almost furcate therewith, although typically insulated. Some of the other nervures also exhibit a tendency to assume a double form.

The lower intermediate area presents always an uniform type of *three* somewhat approximating nervures radiating from the base of the wing, inspissated from their origin and becoming exceedingly slender beyond the centre, although prolonged in a straight line to the exterior margin. These nervures may be considered to correspond with the *interno-medial* (or “*fourth principal nervure*”), the *subinterno-medial*, and the *anal*, of Kirby and Spence.

Furthermore, a very delicate, straight, continuous nervure, intervenes in all cases about midway between the externo- and interno-medial, corresponding with the *sub-externo-medial* of the same writers (*ibid.* p. 375).

In some cases, the faint trace of a spurious supplementary nervure (*neura spuria*, *ibid.* p. 376) would seem to exist between the subinterno- and interno-medial nervures, which, not being constant, even in the *same species*, can only be regarded as abnormal.

Thus, all the elements of the metathoracical wing defined as the normal type in Coleoptera, are distinctly portrayed; coupled also with the "*striking circumstance*" already adverted to, that "*few or no closed areolets*" are to be found therein.

These results, with the principal nervures brought prominently forward, may be tabulated as follows:—

Neurarum Alæ Synopsis.

Area Costalis, K.	}	a. Neura costalis, K. b. Neura mediastina, K. c. Neura postcostalis, K.
Area intermedia, K.	}	d. Neura 1a insulata (<i>apicalis</i>). e. Neura 2a insulata (<i>discoidalis</i>). f. Neura externo-media, K.
Area analisis, K.	}	g. Neura subexterno-media, K. h. Neura interno-media, K. i. Neura subinterno-media, K. k. Neura analis, K. l. Margo analis.

The structure of the antennæ, which vary in the terminal joints, exhibits a certain uniformity of organization in the three basal joints; the *stipes* consisting in all cases of *two* short joints (*g*); the *third* being invariably produced into a divergent *exarticulate branch*; and the *fourth* emanating from the base of the latter.

(*g*) Kirby, in his general characters, defines the antennæ as " *basi stipite communi crasso bi-vel triarticulato*" (Linn. Trans., *l. c.*, p. 109); and in *Xenos* (p. 114) he describes them as "*stipite triarticulato*." So also in the description of his Tab. IX. fig. 10, b, "*the triarticulate stipes of the antennæ*" (p. 121) in *Xenos Peckii* is indicated; the third joint, as represented in the plate, being in reality the *basal cup of the first exarticulate branch*. Siebold also in his *X. sphecidarum* (N. Schrift. d. Nat. Gesch. 1839, p. 79) defines the stipes as triarticulate, the *third* joint being the *shortest*. (For position of *exarticulate branch*, *vide post*, p. 21.)

By the discriminating characters derived from the shape and number of these several joints (which, in conjunction with certain differences in those of the tarsi, have served as a basis for generic distinctions, and are also found to maintain a constant restriction to certain exclusive associations of birth and origin), it may as readily be determined to which section of the *Stylopidae* any nurturing race or foster-parents may have afforded sustenance, as *vice versâ* to which tribe of the latter any of the aforesaid should be affiliated, in so far as such connecting links have been duly ascertained in other cases.

Hence it would seem to follow, as a necessary corollary, that all combinations of such genera into natural groups or *subfamilies*, should be made in accordance with their respective alliances; whereby these associations may be consistently defined and maintained. In fact, there is no other possible criterion for properly assorting the *females*, than by classifying the nurturing species themselves in conjunction therewith.

The genus *Xenos*, however, as at present constituted (by reason of a mere coincidence in the number of joints in the antennæ and tarsi), is subject to the controlling destinies of different families and tribes, so widely separated from each other in the most vital elements of their existence, as to render any artificial union between their respective dependents, founded upon this limited basis, utterly irreconcilable with such obvious incompatibilities of origin and descent.

Thus the true *Xenides* consorting with the social *Vespidæ*, must be reared from their primary hexapod condition in from *thirty* to *forty days*: such being the term within which the larvæ of the Social Wasps attain the imago state; the females of the latter *hibernating* with those of the former, which produce their larval brood the *ensuing year*.

In marked contrast with these hibernating *Xenides*, which, from the peculiar exigencies thus imposed, are *slow* to produce their larval brood from females of the *preceding year*, but *rapid* in their ultimate metamorphoses; others have been comprised in the same group, which are nurtured by the larvæ of solitary wasps and fossorial *Hymenoptera*, these latter tribes coinciding more or less in their habits and economy, and requiring about *eight* or *nine months* (from one year to the next) to attain

maturity ; involving a corresponding detention for their associated dependents : which, after their long protracted larval condition as aforesaid, must, from the same inevitable necessity, produce their young the *self-same year* in which they themselves complete their transformations, in order that (like the *Stylopidæ*) their brood may obtain access to the future larva-cells of their *non-hyber-nating* foster-parents.

These very distinct groups must necessarily be divided into different subfamilies, readily distinguished from each other ; the true *Xenides* (nurtured by the *social wasps*) having the two exarticulate branches of the antennæ tapering, sinuous, and divergent ; whereas in the others, which I would distinguish as *Pseudoxenides*, they are compressed, forcipate, and recumbent.

This latter group, however, as thus separated from the true *Xenides*, comprises in itself the fosterlings of two very dissimilar tribes ; namely, of the *Eumenidæ*, and other solitary wasps on the one hand, and of the *Sphegidæ*, with their fossorial allies, on the other. When, therefore, we find, in other instances, different genera, and different species, of the *same nurturing tribe*, maintaining exclusive associations with their respective foster-dependents, how much the more might not the same principles be held to apply to the dependents of *different tribes*, not indeed so utterly irreconcilable with each other, as to preclude all possible intercommunion of race between such subsidiary groups from adventitious circumstances ?

It remains, therefore, to be seen, how far the lines of demarcation which separate these fostering tribes may be more or less ostensibly reflected in their foster-progeny.

But, amid the numerous instances in which the exuviae of male *Stylopidæ*, or their derelict females, have been met with among the different genera of *Fossores*, Latr. (as tabulated in the sequel), the European *Xenos Sphecidarum*, and the Brazilian *Xenos Westwoodii*, described and figured in our Transactions by Mr. Templeton (*h*), have alone been detected hitherto in the winged form ; to which I am now enabled to add a third species obtained on several occasions (both males and females) from one of the European *Nyssonidæ*.

(*h*) Second series ; Vol. III. p. 51.

This species appears to correspond with Mr. Templeton's, in the structure of the basal joints of the antennæ; and likewise in the peculiar conformation of the third joint, which (as in the Brazilian species), is "suddenly turned off at right angles;" both branches being tumid and distorted; and although in the latter, the *fourth* joint is described "as about one-fourth part" longer than the *third*, this would hardly seem to constitute a reliable generic character, for the converse appears to be the case in *X. Sphecidarum*, where the *penultimate* branch or *inner* article (innere Glied) is stated by Dr. Siebold to be *always somewhat longer* than the *terminal* or *outer* one (*l. c.*, p. 79); while in my species, there would seem to be no perceptible difference in their respective length. The Senator Von Heyden also mentions a *Xenos* which he had obtained from *Polistes gallicus*, in which the branches of the antennæ "*were very unequal in length*" (*Tr. Ent. Soc. Lond.*, Tom. 1, p. lxxiv.).

But I also obtained from a specimen of *Epipone spinipes*, L. (captured in the vicinity of the burrows of the *Bembecinus*, from which the preceding species was derived), three other males so closely corresponding therewith, in the peculiar distorted conformation of the antennæ, essentially different from the straight flattened branches of those which I have found with other *Odyneri*, that, although emanating from two distinct nurturing tribes, they would seem to be congeneric, if not otherwise identical.

Hence it follows, that in those cases where the economy and habit of the fostering races correspond, no distinctive limits can be affixed to the foster-progeny, which, under such circumstances, may be equally adapted to abide with either.

From the uncertainty which attaches to a considerable number of fosterlings whose existence alone, as associated with various genera and species of these nurturing tribes, has hitherto been recorded, but of whose characters no information has yet been obtained, it would seem far from improbable that many novelties have yet to be detected among these occult forms; whereof one of the most remarkable has been dimly foreshadowed in the exuvial traces of an allied race among the *Homoptera*, as adverted to in the concluding paragraph (*vide post*, p. 48).

Characteres e maribus desumpti.

(Descriptiones Kirbianæ mutatis mutandis.)

Corpus oblongum, subcylindricum, cute corneâ, cataphractum.

Caput sessile, trunco latius, transversum, magnum.

Os cum labro, labio, et maxillis (*i*) obsoletum et vix ullum.

Mandibulæ [*maxillæ*, Curtis (*k*)] corneæ, elongatæ, lineares, angustissimæ, edentulæ, apice forficatæ, acutæ, sub capite apud basin palporum intus insertæ.

Palpi duo biarticulati, valde distantes, sub capite inserti. [In Paraxeno Westwoodii triarticulati? *vid. post* p. 47.]

Antennæ inter oculos in acetabulo frontis insertæ; 4, 5, 6, vel 7-articulatæ, stipite biarticulato, articulis brevissimis, articulo tertio saltem in ramum exarticulatum producto.

Oculi magni, plus minusve pedunculati [vel subsessiles —*Elenchus*], capite porrecti, hemisphærici, hexagonis crystallinis planiusculis septo elevato separatis.

Truncus oblongus.

Prothorax collariformis, brevissimus, transversus.

Mesothorax (*Dorsolum*, Kirb.) transversus brevis, elytris angulis anticis utrinque affixis.

Metathorax ingens; *scutello* [*præscuto*, Audouin (*l*)] subtriangulari, inter alarum angulos basales posito (*m*); *lumbi* [*epimera*, Aud.] magni, latera trunci fere tota occupantes, subrhomboidales, convexiusculi, lateribus deflexis, concavis; *interlumbium* [*scutum*, Aud.] triangulare, vertice acuminato; *postlumbium* [*scutellum*, Aud.] declive aut verticale, breve, transversum, corneum vel membranaceum; *proscutellum* [*postscutellum*, Aud.] conicum, subcalceoliforme, productum, convexum, ascendens, abdominis basin obumbrans et muniens, subtus cavum.

(*i*) Kirby, Trans. Linn. Soc., *loc. cit.*, pp. 103, 109.

(*k*) Curtis, Brit. Entom., Fol. 226, 385.

(*l*) Audouin, Ann. Sci. Nat. Tom. I. pp. 97, et 416.

(*m*) Kirby, *loc. cit.*, p. 105, Tab. IX. fig. 1, 2e.

Pectus et Sternum sub pedibus anticis delitescunt, vix discernenda.

Peristethium (Illiger) a pedibus intermediis omnino occultatum.

Scapularia (Illiger) subtriangularia, ante basin alarum posita (Kirby, fig. 4c).

Pleuræ (Illiger) longitudinales, latiusculæ, et ferè lanceolatae (*ibid.*, fig. 4d).

Parapleuræ (Illiger) longitudinales, sublineares, anticè attenuatae, apice subclavatae et inter basin alarum et scapularia interpositae, pleuris a parte inferiori parallellae (*ibid.*, fig. 4e).

Mesostethium (Illiger) amplum, subpanduriforme, posticè medio longitudinaliter canaliculatum; *mediosterno* aut *poststerno* exstante nullo (*ibid.*, fig. 5a).

Femoralia magna, crassa, apice rotundata, posticè attenuata, basi gibba, abdomen utrinque munientia (*idem.*, fig. 1, 2, 11).

Elytra lateralia, distantia, distorta, coriacea, linearia vel ferè cochleariformia, alas nullo modo tegentia.

Alæ amplæ, submembranaceæ, circuli quadrantis figurâ æmulæ, longitudinaliter plicatiles, radiatae [sive neuris plurimis divergentibus, aliisque insulatis]. (Vide ante neurarum tabulam synopticam.)

Pedes compressi, anterioribus 4 approximatis, posticis remotis.

Coxæ anteriores 4 minimæ, vix distinguendæ; posticæ longiores magis conspicuæ.

Trochanteres femorum basin omnino intercipientes; anterioribus 4 elongatis, magnis, femoribus longitudine ferè æquales; posticis brevioribus, coxis subæqualibus.

Femora ferè semiovata.

Tibiæ apicem versus sensim crassiores, inermes.

Tarsi 2- 3- vel 4- articulati; articulo primo reliquis longiori; sequentibus ferè obconicis, subtus membranâ vesiculari suffultis, apice dilatatis, emarginatis; extimo mutico.

Abdomen marginatum, molle, segmentis octo, podice minuto lineari adunco supra terminatum; subtus processu genitali longiusculo, lineari, styliformi, reflexo, basi dilatato, munitum.

Characteres e fœminis desumpti.

Fœmina aptera, larviformis, cui oculi, antennæ, trophi- que desunt; vivipara, abdomine intra corpus aliorum latente; cephalothorace tantum projiciente. Hic squa- mosus, corneus, obtusus, basi in cervicem contracto, cochleariformis, capite cum pro- meso- metathoraceque (segmentis quatuor) in unum conjunctis; disco superne convexo, subtus concavo, angulis posticis subinflatis; stigmatum unico laterali utrinque basin versus (*n*), vel marginis sub tegmine celato (*o*); œsophagi aditu super- ficiei convexæ apicem versus (*p*); processu corneo, minuto transversali (seu mandibula rudimentaria (*q*)) in non- nullis, tuberculove porrecto palpiformi in aliis (*r*), utrinque posito; paulo retro arcu subelevato (ubi in marium pupariis operculi sutura invenitur), quo canalis vaginalis introitus adest.

Abdomen segmentis novem, molle, oblongo-ovale, am- plum; saccum flaccidum absque aditu anali constituens; canale interno incubationis lato superne jacente; in quem per aditus parvos, rotundos, tres usque quinque, per cutem pellucidam segmentorum abdominalium secundi, tertii, quarti (*s*), nonnullis quintique (*t*), aliis etiam sexti (*u*), translucens, tot tubi antice curvati ab antro ventrali seriatim ducunt, quibus ingressibus larvæ primitivæ inter ovaria lacerata vagantes, atrium petunt ut denique per vestibulum thoracicum gradatim evadant.

(*n*) Kirby, Trans. Linn. Soc. Lond., *loc. cit.*, Tab. VIII. fig. 4; Siebold, N. Schrift. d. Naturforsch. Gesellsch. in Danz. 1839; III. 2, p. 74, Tab. III. fig. 62, a, a.

(*o*) Siebold, Wieg. Archiv. 1843, p. 149, Tab. VII. 4c, c (*X. Rossii*).

(*p*) Siebold, *ibid.*, p. 140, Tab. VII. fig. 3, 5e; Westwood, Trans. Ent. Soc. Lond., ser. 2a, Tom. 1, Tab. VIII. fig. 2i.

(*q*) Siebold, Wieg. Archiv. *loc. cit.*, Tab. VII. fig. 3, 5, 14e** (*Xenos*); Westwood, *ubi supra*, ser. 2a, Tom. II. Tab. XV. fig. 23 (*Pseudoxenos*).

(*r*) Westwood, *ubi supra*, ser. 2a, Tom. I. Tab. VIII. fig. 2a-i (*Hylec- thrus*); Westwood, *ubi supra*, ser. 2a, Tom. II. Tab. XVI. fig. 15, 16, 17, 20 (*Hylecthrus*).

(*s*) Siebold, N. Schrift. l. c., pp. 75, 85, Tab. III. fig. 62, c, c, c (*X. Sphœcidarum*).

(*t*) Siebold, Wieg. Archiv. l. c., pp. 149, 161, Tab. VII. fig. 1g* (*X. Rossii*).

(*u*) Siebold, Wieg. Archiv. l. c., pp. 141 (sect. 18) et 149 (*Stylops*).

Metamorphosis.

Larva primitiva ab ovo in corpore materno maturatur, hexapus, saltatoria, elongata, convexa, coriacea, segmentis 13, tuberculis analibus exclusis (*x*), setâ longâ caudali utrinque; capite plano semicirculari, angulis posticis stemmatiferis (*y*); antennæ minimæ (*z*) vel obsoletæ (*a*); pedibus motu anomalo, sese duplici serie anticè posticè trajicientibus (*b*); tarsis inarticulatis, unguibus nullis. *Xenidum* larvæ primitivæ pedibus anterioribus 4 tarsorum apice carneo, inflato, vesiculari (*c*); posticis simplicibus; *Stylopidum* larvæ tarsis minus dilatatis.

Hæ larvæ primitivæ, ut aliorum in nidos transferantur, apud matrem cum alioribus restant, donec in cellulas evadentes, intra corpus larvarum penetrantes, post hebdomadam pelliculâ dejectâ metamorphosin perficiunt (*d*); atque sub formâ secundariâ molli albâ apodâ videntur; segmentis decem, quorum unum cephalothoracicum magnum subnasutum, larvæ primitivæ segmentis 4 anticis æquivalens; marium ultimo acuminato (*e*); fœminarum ultimo rotundato (*f*).

Larva secundaria (marium) *adultæ*, altoris ultimâ metamorphosi vix subitâ, naso corneo subobtusio, alternatim transversè dextro sinistroque operando, per membranam tenuem inter abdominis segmenta aditum perrumpit; ubi segmentorum anteriorum cutis mollis sensim induratur.

Fœminarum larva secundaria, cephalothorace projiciente, uti sub fœminæ descriptione ante narratur; vix ultra mutatur.

(*x*) Westwood, Trans. Ent. Soc. Lond.; ser. 1a, Tom. II. p. 184, Tab. XV. fig. 13 (*Stylops*); ser. 2a, Tom. I. Tab. VIII. fig. 3 (*Hylecthrus*). Siebold, Wieg. Archiv. *loc. cit.*, Tab. VII. fig. 15 (*Xenos*); Siebold, ibidem, Tab. VIII. fig. 16 (*Stylops*). Newport, Trans. Linn. Soc. Lond. Tom. XX. pp. 341-343, Tab. XIV. fig. 21, 22 (*Stylops*).

(*y*) Siebold, *ubi supra*, p. 155, Tab. VII. fig. 15 l (*Xenos*).

(*z*) Siebold, ibidem, Tab. VII. fig. 16 m (*Stylops*).

(*a*) Westwood, *loc. cit.*, ser. 1a, Tom. II. p. 185 (*Stylops*). Newport, *loc. cit.*, p. 362.

(*b*) Westwood, *loc. cit.*, sec. 1, Tom. II. p. 186.

(*c*) Siebold, *ubi supra*, fig. 15 (*X. Rossii*).

(*d*) Trans. Ent. Soc. Lond., ser. 2, Tom. II. p. 127 (*Xenos*).

(*e*) Siebold, *loc. cit.*, sect. 12, p. 139, Tab. VII. fig. 10, 11, 12.

(*f*) Siebold, *loc. cit.*, sect. 12, p. 139, Tab. VII. fig. 6, 13.

Mas tamen externè in puparium cylindricum, operculo capitis convexo, subrotundato (*Stylopidum*), vel transversè compresso, subarcuato (*Xenidum*), anticè tuberculato, oculorum situ fenestrato, convertitur; imprimis lacteum, nasi circuitû oculorumque regione tantum brunneis; tunc cito corneum, castaneum vel piceum extra fit, cephalothorace basin versus stigmate unico minuto utrinque instructo (*g*).

Intrâ puparium nympa (seu pupa vera) pallida, cuncta imaginis organa exhibens, conformatur; quæ brevi nigricans, intraque hebdomadam ferè pelliculâ dejectâ, ad operculum propinquans, per latera fenestrata, quibusdam (*Xenidibus* et *Pseudoxenidibus*) fenestrulis hexagonis instructa (*h*), circumspicit, ut in horâ propitiâ, luce instigante, capitis impetû operculum dejiciat et per auras imago emancipata evolet.

Annotatio. De formâ primitivâ pupæ veræ, ut in *Sitaris* casu a Clar. D. Fabro sub *larvâ tertiâ* narratur et delineatur (*i*), in *Strepsipteris* nihil adhuc constat. Talis metamorphosis transitoria *intra puparium* in quo denique, pelliculâ iterum dejectâ, ipsa pupa (seu nympa) evolvitur, ut *pseudo-pupæ* potius quam larvæ redivivæ characteribus induta, mihi existimanda videtur.

In *Meloë*, cujus metamorphoses jamdudum a Domo. Newport descriptæ fuere, "*larva-adulta* seu *pseudo-larva*" ab ipso in tabulâ "*cum pedibus*" delineatur et explicatur (*k*), quare cum "*pseudo-chrysalide*" Fabri haud identica foret, ut ab illo existimatur (*l*). De ultimâ tamen a D. Newport vix perspicue narratur, et quasi per saltum ad "*nympham* seu *pupam* in *pseudo-larvæ cute*

(*g*) Siebold, *loc. cit.*, sect. 12, p. 139, Tab. VII. fig. 7, 8, c.

(*h*) Kirby, *loc. cit.*, p. 115, Tab. VIII. fig. 7, a. Siebold, *loc. cit.*, Tab. VII. fig. 9, i.

(*i*) Fabre, *loc. cit.*, pp. 340, 365, Tab. XVII. fig. 5. Lacordaire, *loc. cit.*, p. 638.

(*k*) Newport, Trans. Linn. Soc. Lond., Tom. XX. (pars 2) pp. 320, 356, Tab. XIV. fig. 15-17, 1847.

(*l*) Fabre, *loc. cit.*, p. 356.

dejectâ suâ involtam" transgreditur. Sed quæ in *Sitari* eadem quoque in *Meloë* transformatio intermedia, a D. Fabro verificata, fit (*ibid.* p. 358).

In *Rhipiphoro paradoxo* larva adulta (absque pupario) mox a Dre. T. A. Chapman descripta et delineata est (*m*), quamvis de metamorphosi ejusdem in pupam veram hodie ignoramus. *Rhipiphororum* tamen larvas primitivas plures intra *Vesparum* larvas (ut pariter a *Stylopidis* efficitur) detexit; quæ postea exeundo metamorphosin subeuntes, pelliculâ in aditu relictâ, larvas ipsas ab externo vorant.

Sitarium et *Meloïum larvæ secundariæ* de melle viscoso in *Anthophorarum* cellulis aluntur; quæ in statu primitivo unicum pabulum ab ovo petunt; quod vix elabens ab oviductu dexterrime attinent, ubi contactus glutinosus fatalis fuisset (*n*).

Hi omnes tamen, quamvis inter se anomali; moribus divergentibus, metamorphosi variâ, trophis mutabilibus (*o*), pabulo diverso, characteribus Proteis; ad *Stylopidas* plus minusve appropinquantes, in vinculis affinitatis colligantur; in familiis proximis, ut opinor, cum iisdem consociari debent.

Observatio. E larvæ primitivæ trophis in fœminarum cephalothorace subversis (*p*) constat ut superficies convexa quæ ab abdomine aliorum extus exhibetur, regionem ventralem, concavaque subtus dorsalem, constituunt. Maribus tamen, ob aliorum segmenta abdominalia plus minusve constricta ut videtur, imagines nonnullæ (*Stylopidum*) cum pedibus super aliorum segmenta sistentibus, aliæve (*Xenidum* et *Pseudoxenidum*) inversæ, declarantur; quo modo pariter larvæ adultæ cephalothorace exserto metamorphosin subeunt; *Stylopidum* operculo capitis subrotundo, *Xenidum* oblongo-transversali (*vide* in *Hylethri* maribus larvæ adultæ et puparii positionem, ut in *Trans. Ent. Soc. Lond. serie 2dâ, Tom. II. tab. xvi. fig. 6** et *9* delineatur).

(*m*) Chapman, *loc. cit.*, p. 324, Tab. XV. fig. L.

(*n*) Fabre, *loc. cit.*, p. 326 (*Sitaris*); p. 353 (*Meloë*).

(*o*) *Ibid.* *Sitaris* larva *primitiva* mandibulis acutis, recurvis (p. 317); larva *secundaria* mandibulis obtusis, intus excavatis, cochleariformibus (p. 335); larva *tertia* (in pupario) mandibulis acutissimis (p. 341).

(*p*) Siebold, Weigm. Archiv. 1843, pp. 149, 152, 159, Tab. VII. fig. 14.

SUB-FAMILIÆ.

Stylopidarum subfamiliarum divisiones secundum altorum affinitates, generum tamen propriâ structurâ, determinantur. Specierum definitiones adhuc editæ sæpe ambiguæ resultant, et potius e nutritoribus quam seipsarum characteribus discernendæ sunt. Fœminarum præcipue, nisi altoribus adjuvantibus, discrimina quasi desunt. Quamobrem in subfamilias quinque, propter consociationum diversitates, mihi distribuere visum est.

§ *Synopsis subfamiliarum ab altoribus desumpta.*

Divisio A. HYMENOPTEROBLÆ.

Sub-familiæ.

Melliferorum Latr. incolæ	1.	<i>Stylopides.</i>
Formicidarum Leach incolæ	2.	<i>Myrmecolacides.</i>
Vespidarum socialium incolæ	3.	<i>Xenides.</i>
Vespidarum solitarium et	}	4. <i>Pseudoxenides.</i>
Fossorium Latr. incolæ		

Divisio B. HOMOPTEROBLÆ.

Fulgoridarum Leach incolæ	5.
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§ § *Synopsis Generum e structurâ desumpta.*

Divisio A.

Sub-fam. 1. STYLOPIDES.

Antennæ 7 articulæ.	Tarsi 3 articulati	. . .	1.	<i>Halictophagus.</i>
„ 6 „	„ 4 „	. . .	2.	<i>Stylops.</i>
„ 5 „	„ 4 „	. . .	3.	<i>Hylecthrus.</i>
„ 5 „	„ 2 „	. . .	4.	<i>Elenchus (q).</i>

Sub-fam. 2. MYRMECOLACIDES.

Antennæ 6 (vel 7?) articulatæ.	Tarsi 4 articulati	. . .	5.	<i>Myrmecolax.</i>
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Sub-fam. 3. XENIDES.

Antennæ 4 articulatæ.	Tarsi 4 articulati	. . .	} 6.	<i>Xenos.</i>
Antennarum ramis <i>flexuosis</i> , tentaculiformibus,				
apice acutis				
Alarum neuris insulatis ambabus simplicibus				

Sub-fam. 4. PSEUDOXENIDES.

Antennæ 4 articulatæ.	Tarsi 4 articulati.			
Antennarum ramis <i>teniaformibus</i> , compressis;		} 7.	<i>Pseudoxenos.</i>	
articuli 3tii cubito basali subrotundato;				
apice obtusis				
Alarum neurâ insulatâ apicali duplici		} 8.	<i>Paraxenos.</i>	
„ discoidali simplici				
Antennarum ramis <i>distortis</i> , tumidis, compressis;		} 8.	<i>Paraxenos.</i>	
articuli 3tii cubito basali prominulo, rectangulariter recurvo;				
apice obtusis				
Alarum neuris insulatis ambabus duplicatis				

Divisio B.

Sub-fam. 5. ———.

(Homopterabiarum characteres adhuc ignoti)	. . .	9.	(r)
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(q) An hujus sectionis (?) vide postea sub p. 24, not.

(r) The description and figure of the individual upon which this division is established, will be described by Professor Westwood in a subsequent article, in which figures illustrating some of the details contained in the present memoir will also be given.—J. O. W.

Annotatio. Antennarum articulus tertius, in ramum exarticulatum productus, nunc *infra*, nunc *extrà*, vel *intrà*, secundum genera et familias situm varium habet.

In *Halictophago*, lobi cuncti *externè* (at, antennis lateraliter deflexis, *posticè*) producuntur. In *Stylope*, ramus exarticulatus *infra* (Kirby, 1813), sive *externè subtùs* (Westwood, Introd. Tom. II. p. 291, fig. 93, 5), evadet. In *Hylethro*, hic ramus (antennis pariter deflexis) *retrò* locatur, alterum ramum *extrorsùm* ferens. In *Elencho* et *Myrmecolace*, ramus exarticulatus *lateraliter* vel *posticè* exstat.

In *Xenidibus* et *Pseudoxenidibus* rami præcedentibus *converse* positi sunt; nempe (antennis *porrectis*) articuli tertii pars producta quæ in *Stylopidibus* (antennis ita *porrectis*) ab *extrà* est, in his ab *intrà* conspicitur. Sin autem antennæ *transverse* dextrà sinistrâque vertuntur, idem ramus (Artic. 3s.) qui in *Stylopidibus subtùs* vel *retrò* jacet, in his *antice* invenitur.

Divisio A. HYMENOPTEROBLÆ.

Sub-fam. 1. STYLOPIDES.

Character essentialis.

Hymenopterorum melliferorum Latr. incolæ.

Stylopidæ hujus sub-familiæ intra larvas per plures menses alitæ, pari passu metamorphosin lente subeuntes, anno sequente simul cum ipsis altoribus in lucem evadere expectant.

Generis *Elenchi* status, sive cum *Melliferis* sive cum aliis consociandus, adhuc anceps.

GENERUM ET SPECIERUM TABULA SYNOPTICA.

Genus 1. HALICTOPHAGUS, Curtis.

SPECIES.	SEXUS.	ALTORES.	PATRIA.	BIBLIOGRAPHIA.
1. <i>H. Curtisii</i> , Dale.....	♂	<i>Halictus eratus</i> , Kirb.....	Anglia	Curtis, Ent. Brit. fol. 433.
_____?	♀	<i>H. minutus</i> , K.....	"	Smith, Tr. E. S. Lond., ser. 2, Tom. V. p. 129.
_____?	♀	<i>H. nitidiusculus</i> , K.....	"	<i>Ibidem</i> .
_____?	♀	<i>H. longulus</i> , Sm.....	"	"
_____?	♀	<i>H. rubicundus</i> , Christ.....	"	In Mus. Dom. Smithii.
_____?	♀	<i>H. obovatus</i> , K.....	"	<i>Ibidem</i> .
_____?	♀	<i>H. quadrinotatus</i> , K.....	"	"

Genus 2. STYLOPS, Kirby.

SPECIES.	SEXUS.	ALTORES.	PATRIA.	BIBLIOGRAPHIA.
1. <i>S. Melittæ</i> , K.....	♀	<i>Andrena nigro-enea</i> , K.	Anglia	Mon. Apum. Angl., loc. cit.
2. <i>S. Dalei</i> , Curt.....	♂	<i>A. labialis</i> , K.....	"	Curtis, Ent. Brit. fol. 226.
	♂	<i>A. barbitabris</i> , K.....	"	<i>Ibidem</i> .
3. <i>S. Childreni</i> , Gray.....	♀	<i>A. victima</i> , (?) Smith	Nova Scotia.	Griff., Cuv. Reg. Anim., loc. cit.
	♂	<i>A. desponsa</i> , Smith	"	Smith, Mus. Brit. Catal. p. 114.
	♀	(an præcedentis mas?)....	America borealis	Packard, Guide, &c., p. 483, 1870.
		<i>A. placida</i> , Smith		

STYLOPS—continued.

SPECIES.	SEXUS.	ALTORES.	PATRIA.	BIBLIOGRAPHIA.
4. <i>S. Spencii</i> , Pick.	♂	<i>A. tibialis</i> , K.	Anglia	Trans. Ent. Soc. Lond. loc. cit.
5. <i>S. aterrima</i> , Newp.	♂	<i>A. Trimmerana</i> , K.	"	Trans. Linn. Soc. Lond. loc. cit.
		<i>A. pubescens</i> , Fab.	"	Pickering, Trans. E. S. Lond. Tom. I. ser. 1a, p. 168.
		(<i>rugifloris</i> , K.)	"	<i>Ibidem</i> .
		<i>A. fulvicrus</i> , K.	"	<i>Ibidem</i> .
		<i>A. Colkinsonana</i> , K.	"	<i>Ibidem</i> .
		<i>A. Afzeliella</i> , K.	"	<i>Ibidem</i> .
		<i>A. Mouffetella</i> , K.	"	<i>Ibidem</i> .
		<i>A. picicornis</i> , K.	"	Thwaites, Tr. E. S. Lond., Tom. III. ser. 1a, p. 67.
(<i>S. Thwaitesi</i> , milhi) ...	♂	<i>A. coneviuscula</i> , K.	"	Smith, Tr. E. S. Lond., Tom. V. ser. 2a, p. 132.
		<i>A. bicolor</i> , Fab.	"	<i>Ibidem</i> .
		(<i>Clarkella</i> , K.)	"	<i>Ibidem</i> .
		<i>A. nitida</i> , K.	"	<i>Ibidem</i> .
		<i>A. fuscata</i> , K.	"	<i>Ibidem</i> .
		<i>A. chrysoceles</i> , K.	"	Pickering et Smith ubi supra.
		<i>A. varians</i> , Rossi.	"	<i>Ibidem</i> .
		<i>A. Xanthura</i> , K.	"	<i>Ibidem</i> .
		<i>A. parvula</i> , K.	"	<i>Ibidem</i> .
		<i>A. Guyanana</i> , K.	"	In Mus. Dom. Smithii.
	♂ exuv.	<i>A. aprilina</i> , Sm.	"	<i>Ibidem</i> .
	♀	"	"	"
	♂ exuv.	<i>A. picipes</i> , K.	"	"
	♀	"	"	"
	♀	<i>A. Rose</i> , Panz.	Epirus	In Mus. nostro.
	♀	<i>A. thoracica</i> , Fab.	"	<i>Ibidem</i> .
	♀	<i>A. variabilis</i> , Sm.	"	"
	♀	<i>A. carbonaria</i> , Fab.	Ægyptus	"
	♂ exuv. et ♀	<i>A. similima</i> , Sm.	Florida	Smith ubi supra.

Genus 3. HYLECTHRUS, Saund.

SPECIES.	SEXUS.	ALTORES.	PATRIA.	BIBLIOGRAPHIA.
1. <i>H. rubi</i> , Saund.	♂ ♀	<i>Prosoptis rubiccola</i> , Saund. Var. <i>P. versicolor</i> , Saund... (cum precedentibus.)	Epirus	Tr. Ent. Soc. Lond. Tom. I. ser. 2a, p. 57. <i>Ibidem</i> .
Var. <i>H. pustulatus</i> , Saund.	♂	<i>P. gibba</i> , Saund.	"	<i>Ibidem</i> , p. 58.
2. <i>H. quercus</i> , Saund.	♂ ♀	<i>P. variegata</i> , Fab.	"	Idem, Tom. II. ser. 2a, p. 142.
3. <i>H. Sieboldii</i> , Saund.	♂ exuv. et ♀	<i>P. signata</i> , Panz.	"	In Mus. Dom. Smithii.
_____?	♀		Anglia	

Genus 4. ELENCHEUS, Curtis.

SPECIES.	SEXUS.	ALTORES.	PATRIA.	BIBLIOGRAPHIA.
1. <i>E. tenuicornis</i> , Kirby...	♂	<i>Ignoti</i> *	Anglia	Tr. Linn. Soc. Lond., Tom. XI. p. 233.
2. <i>E. Walkeri</i> , Curt.	♂	"	Anglia et Hibernia ..	Curtis, Ent. Brit., fol. 385.
3. <i>E. Templetonii</i> , Westw.	♂	"	Insula S. Mauricii	Tr. Ent. Soc. Lond., Tom. I. ser. 1a, p. 173.
		An hujus sectionis (?)		

* Quamvis olim a Dom. Templetonio *Elencheus* ad *Bombos* referretur est, denique hæc notio seipso repudiatur (*loc. cit.*, p. 174) quia Insulâ S. Mauricii Bombi omnino desunt; dum nec *Polistium* nec *Eumenium* iisdem locis adificantium inspectio solutionem præbuit. Nonne forsitan cum *Formicis* (ut *Myrmecolacii* affinis) potius associandus?

Genus I. HALICTOPHAGUS, Curtis.

Curtis, "British Entomology," Fol. et Tab. 433, 1832.

(*E descriptione Curtisianâ anglicè editâ.*)

Antennæ lamellatæ, 7 articulatæ; articulis basalibus 2 robustioribus subquadratis; reliquis singulis [*extimo excluso*] ramum subovatum externe producentibus, usque ad apicem longitudine sensim diminuentibus, extimo penultimi ad basin inserto; rami submembranacei punctis pellucidis ornati.

Trophi (unico exemplo) invisî.

Elytra basi constricta, apice clavata.

Postscutellum valde productum, linguiforme, crassum, superne basi profunde sulcatum.

Alæ amplæ; costâ inspissatâ; neurâ postcostali abbreviatâ; vittâ callosâ apicali [*seu' neurâ prima insulata*], aliisque neuris majusculis quinque [*cum postcostali sex*]; quarum *secunda* [*insulata*] sicut ramus a tertiâ [*externo-mediâ*] excisus; hâc apicem versus subinterruptâ, cui radius brevis externe adjicitur: [*reliquis neuris areæ intermedice inferioris e basi radiantibus, quarum ultima analis*].

Abdomen breve constrictum.

Coxæ [*trochanteres*] anticæ elongatæ.

Femora subbrevia.

Tibiæ breves compressæ.

Tarsi triarticulati; antici duo articulo basali robusto; secundo elongato, tenui; tertio parvo, obovato; postici duo articulis subæqualibus.

Species unica. *Halictophagus Curtisi*, Dale.

Curtis, "Brit. Entomology" (Dale), *loc. cit.*

Fuliginosus, subsericeus; antennis pedibusque luteis; alis vix obscure tinctis, iridescentibus, neuris brunneis; tarsorum articulorum abdominisque apice ochraceo.

Habitat Angliam, cum *Halictis æratis maribus*, mensis Augusti medio, circum carduos graminaque, prope mare sitâ "Lulworth Cove" (Com. Dorsetiæ) dicto, rete verrente semel lectus; alterius quoque pupa (scil. femina?) ab *Halicti* corpore projecta simul detecta. (Dale, *loc. cit.*)

Genus 2. STYLOPS, Kirby.

Kirby, Monogr. Apum. Angl. Tom. I. p. 257, Tab. XIV. fig. 11, 1802; Tom. II. pp. 110-114. Sowerby, Br. Misc. pars 9, Tom. I. pp. 93-5, Tab. XLV. Kirby, Trans. Linn. Soc. Lond., Tom. XI. p. 112, 1813.

(Descriptio Kirbiana, 1813.)

Antennæ bipartitæ, [sexarticulatæ,] ramis compressis, superiori articulo; stipite biarticulo; articulo primo sequente longiori, clavato vel obconico; apice oblique truncato; secundo brevissimo, cylindrico, ramos duos emittente: inferiori [articulo 3tio] paulo breviori, lanceolato et fere auriformi, compresso, exarticulo, supra concavo; superiori compresso, triarticulo: articulo primo [4to] longiori, sublineari, extrorsum paulo latiori; secundo [5to] brevi, tertio [6to] brevissimo, apice rotundato, linearibus, tenuioribus.

Oculi pedunculati, hexagonis numerosis.

Mandibulæ apice paulo crassiores.

Palpi articulo primo magno, obconico, compresso; secundo semi-ovato, acuto; subtus concavo.

Labrum, vel processus labri loco, porrectum, acutum.

Nasus obtusus, ante antennas prominens et labrum obumbrans.

Scutellum [præscutum, Aud.] apice obtusum.

Interlumbium [scutum, Aud.] posticè valde convexum.

Postlumbium [scutellum, Aud.] fere verticale, corneum.

Pedes trochanteribus posticis elongatis; tarsis [4-articulatis] articulo extimo fisso.

[*Ale*, costâ basi inspissatâ, seu cum neurâ *mediastinâ* quasi conjunctâ; *postcostali* abbreviatâ; *areâ* costali obscurâ: *neurâ* *externo-mediâ* sinuatâ; *secundâ insulatâ* de margine externo ad illam basin versus vix attingente; *primâ insulatâ* (*apicali*) duplicatâ abbreviatâ; *area intermedia inferior* neurâ *subexterno-mediâ* gracili; aliisque tribus rectis, basi robustioribus, subappropinquantis, ad marginem externam productis; scilicet *interno-media*, *subinterno-media*, et *analis*.]

Species 1. *Stylops Melittæ*, Kirby.

Monogr. Apum Angl., *loc. cit.*, Kirby & Spence, *Introd. to Entomology*, Tom. I. Tab. 2, fig. 1, 1828.

Syn. *S. Kirbii*, Leach, Zoolog. Misc. Tom. III. p. 135, Tab. 149, 1814. *S. Haworthi*, Steph., Syst. Catal. 1829.

(*Kirbii descriptio*, 1802.)

St. aterrima; alis eorpore majoribus; pedibus fuscis.

Long. corp. lin. $1\frac{1}{2}$.

Corpus aterrimum, obscurum. *Caput* antice obsolete trilobum. (*Palporum* et *Antennarum*, vide antè descriptiones emendatas.)

Oculi magni prominuli, conspicue reticulati, pedunculo brevi, crasso, insidentes. *Vertex* planiusculus.

Truncus. Elytra parva, sublinearia, *thoracis lateribus affixa*. Alæ magnæ, corpore longiores, plicatæ, lacteæ, costâ lineolâque submarginali, nigricantibus. [*Pro-*] *Scutellum* [*postscutellum*, Aud.] porrectum, elongatum, calceiforme, abdomen obtegens; processu corneo utrinque munitum. *Pedes* compressi picei. *Abdomen*, sub scutelli tegmine delitescens, carnosum, ano truncato, submarginato.

Larva [sc. fœmina]. Corpus subcylindricum, molle, albidum, in abdomine *Melittæ* capite exserto corneo, cordato, planiusculo, subrufo, postice nigro; subtus postice concavo.

In Mus. Brit. Oxon. et aliis.

Habitat Europam; typus in *Melittâ* (Andrenâ Fabr.) *nigro-æneâ*, K., incola. Species aliæ tamen putativæ, sive ob nuperrimam metamorphosin seu vetustatis vel ambiguitatis causâ, tantum dubiæ resultant, ut Dom. Smithii hypothesis *Stylopes* indigenas adhuc descriptas unicum constituere speciem (s) verisimillima videtur.

Nihilominus quales ab altoribus diversis oriundæ, quamvis species equivocæ sint, cum nominibus distinctis indicativis haud inutile conservari puto.

Species 2. *Stylops Dalii*, Curtis.

Curtis, "Brit. Entomology," Tom. III. Fol. et Tab. 226, 1828.

(s) Trans. Ent. Soc. Lond., ser. 2a, Tom. IV. p. 118.

(E descriptione Curtisianâ anglicè editâ.)

Fuliginosa, scutelli basi, abdominisque lateribus ochraceis; alis postice emarginatis, angulo anali angustioribus, lacteis, iridescentibus; costâ, neurarum basi, elytris, pedibusque fuscis.

In Mus. Brit.

Habitat Angliam, ex *Andrenis labiali*, K., et *barbilabri*, K. a Domo. Daleo mense Maio dempta. Alia quoque sole fulgente volans capta.

Species 3. *Stylops Childreni*, Gray.

Griffith, Cuv. Regn. Anim. Tom. XV. Tab. 59 (Insecta Tom. II. p. 683 bis, 1832). Smith, Trans. Ent. Soc. Lond., ser. 2a, Tom. IV. Tab. XXIV. fig. D.

Fuliginosa, antennis palpisque piceis; abdomine luteopiceo; pedibus rufescentibus; alis pallide fuscis, iridescentibus, margine antico obscuriore.

Observatio. Ab aliis differt articulo basali apice rotundato, quartoque (seu rami secundi articulo basali) valde incrassato.

In Mus. Brit. typus.

Habitat Novam Scotiam; altore verisimiliter *Andrenâ* victimâ Smithii, cujus tria exempla ejusdem patriæ ita molestata annotantur (*t*); necnon *Andrenâ* placidâ Smithii, cujus exemplum, *Stylope* femininâ aggressum, simul in rete cum mare emancipato, a Dom. Packardo die ultimâ Aprilis Americâ septentrionali captum (*u*).

Species 4. *Stylops Spencii*, Pickering.

Trans. Ent. Soc. Lond., ser. 1a, Tom. I. p. 163, Tab. XVII. fig. 1-14, 1835. Westwood, Introd. Tom. I. Tab. I. fig. 6.

Ab aliis differt magnitudine majore; alis obscuris, neuris nigris; antennarum articulo basali interne ultra secundi basin oblique valde producto; alis antice acuminate, latissimis, postice rotundatis; ano rufo-piceo.

(*t*) Smith in Trans. Ent. Soc. Lond., ser. 2a, Tom. V. p. 129.

(*u*) A. S. Packard, M. D. "Guide to the study of Insects," p. 483. Saleme (Com. Massachusetts) Americæ, 1870.

Habitat Angliam, cum *Andrenâ tibiali*, K. die Christi natali in latebrâ arenariâ situ Chiswick, prope Londinum, a Domo. Pickering fodiendo, mas alatus in pupario altore detectus.

Species 5. *Stylops aterrima*, Newport.

Trans. Linn. Soc. Lond., Tom. XX. p. 340, Tab. XIV. fig. 33, 1847.

Syn. *S. Trimmerana* (*Melittæ*?) Smith, Trans. Ent. Soc. Lond., ser. 2a, Tom. IV. p. 118, Tab. XXIV. fig. 6.

S. Melittæ simillima, sed capitis margine occipitali profunde exciso; antennis, capite, thorace, (alis?) pedibus, abdomineque aterrimis.

Habitat Angliam, cum *Andrenâ Trimmeranâ*, K., mensibus Aprilis et Maii imagines declaratæ.

Genus 3. HYLECTHRUS, Saund.

Trans. Ent. Soc. Lond., ser. 2a, Tom. I. p. 57.

Caput magnum transversum. *Oculi* ingentes. *Antennæ* 5-articulatæ; articulo basali brevi; secundo parvo truncato; tertio longissimo, spatulato, totâ fere latitudine subæquali, quartumque basin versus latere externo ferente; hoc parvo annuloso; extimo (5to) tertio simillimo et in illum recumbente. *Palpi* parvi, biarticulati; articulo basali crassiore, apice obliquo; apicali graciliore, setoso, compresso, externe recurvo. *Mandibulæ* elongatæ, compressæ, ensiformes. *Thorax* antice constrictus, disco gibboso, capiti latitudine subæquali; postscutello maximo, elongato-triangulari, margine antico sinuato, lateribus rectis, angulo postico subacuto porrecto. *Elytra* parva, apice valde dilatata, crassiora, subconca. *Alæ* costæ dimidio basali inspissato (seu potius costâ cum neurâ mediastinâ, quasi conjuncta); *postcostali* ultra medium alæ evanescente, cum *externo-media* prope basin furcatâ; hâc subrectâ, deflexâ, ad marginem exteriorem vix attingente; prope apicem alæ neura incrassata *duplex* subabbreviata (*prima insulata*) exstat; *secunda insulata duplex*, tenuissima, elongata, de margine externo sinuato producta, retro ad neuram externo-mediam proxime extendit: *area intermedia inferior* neuris rectis, deflexis; quarum prima (subexterno-media) gracilis, ad marginem exteriorem attingens; duæ subapproximatæ (interno-

media et subinterno-media) margini interno propiores, basi robustiores; alia quoque (analis) gracilis. *Abdomen* constrictum. Pedes longitudine mediocres, posteriorum tibiis apice dilatatis, compressis, genubus constrictis; tarsi 4-articulati, articulo apicali integro. *Mus*.

Fœmina, cephalothoracis aditu apicali cum processu palpiformi, minimo, utrinque munito (x).

Puparium, operculo oculorum situ pellucido, lævigato.

Species 1. *Hylecthrus rubi*, Saund.

Trans. Ent. Soc. Lond., ser. 2a, Tom. I. p. 17, Tab. VIII. fig. 1, a-k, mas; fig. 2, a-i, fœmina; fig. 3, larva primitiva; *ibid*, ser. 2a, Tom. II. Tab. XVI. figs. 2-10, mas; figs. 11-17, fœmina.

Niger, gibbosus, pedibus luteis; alis lacteis, neuris saturate piceis.

Varietas. (*H. pustulatus*, mihi.) Abdominis segmento singulo (apicali excluso) maculis binis luteis rotundis, superficie dorsali ventralique (cunctis viginti octo), signato.

Long. corp. $\frac{1}{2}$ - $\frac{5}{6}$ lin.

Expans. alar. fere $1\frac{1}{2}$ lin.

Fœminæ nuper declaratæ cephalothorace pallido, lineolâ marginali tenuissimâ nigricante; vittâ utrinque, maculis duabus parvis transversis prope basin, angulisque posticis brunneis: parturientes disco convexiore fere omnino flavescente, vittâ mediâ longitudinali dilutiore.

In Mus. Brit. et nostro.

Habitat Epirum cum Prosopæ rubicolâ, rubis exsiccatis; a mense Junio ineunte usque ad medium ejusdem mensis, mares declarati; fœminæ parturientes sæpe Junio exeunte super porris floriferis cum altoribus lectæ.

Species 2. *Hylecthrus quercûs*, Saund.

Trans. Ent. Soc. Lond., ser. 2a, Tom. I. p. 18; *idem*, Tom. II. Tab. XVI. fig. 18.

(x) Trans. Ent. Soc. Lond., ser. 2a, Tom. I. Tab. VIII. fig. 2, a, b, c, d; *idem*, Tom. II. Tab. XVI. figs. 15, 16, 17, 20.

A. præcedente differt magnitudine duplo majore, alis parum obscurioribus, neurisque magis nigricantibus.
Mas.

In Mus. nostro.

Habitat Epirum, cum Prosope gibbâ, in quercûs gallis primo vere a Cynipibus relictis sæpe ædificante; mense Maio ineunte mares declarati; Junio ineunte fœminæ parturientes super hippomarathro florifero cum altoribus lectæ.

Species 3. *Hylecthrus Sieboldii*, Saund.

Trans. Ent. Soc. Lond., ser. 2a, Tom. II. p. 142, Tab. XVI. figs. 19, 20, femina.

Fœmina tantum, marisque exuviæ adhuc visæ; cephalothorace vittâ longitudinali, apice dilatatâ, fulvâ; fasciâque transversâ basali, medio interruptâ, piceâ.

In Mus. nostro.

Habitat Epirum cum Prosope variegatâ, Fabr., nunquam in rubis vel gallis ædificante; fœminæ parturientes cum altoribus in sabuletis juxta mentham sylvestrem mense Junio ineunte repertæ.

Genus 4. ELENCHUS, Curtis.

“British Entomology,” Fol. et Tab. 385, 1831.

Antennæ elongatæ, tenues, 5-articulatæ, articulo tertio in ramum elongatum linearem, flexuosum, producto; reliquis duobus linearibus elongatis, ramum secundum constituentibus.

(*E descriptione Curtisianâ anglicé editâ.*)

Antennæ in acetabulo frontis utrinque positæ, tenues, pubescentes, scabrosæ, thorace longiores, ramis duobus elongatis, compressis; 5-articulatæ; articulis 1a et 2a brevibus, cyathiformibus; 3o lateraliter producto, elongato, lanceolato; 4o tenui, sequentis longitudine dimidio minore; 5o tertii ultra apicem producto.

Maxillæ [mandibulæ] elongatæ, tenues, lanceolatæ, corneæ.

Caput breve, antice lateribusque lobatum.

Oculi [subsessiles] remoti, globosi hexagonis fere viginti.

Prothorax brevis.

Mesothorax longior; elytris clavatis, basi tenuibus, elongatis.

Metathorax magnus, oblongus, diagonaliter quadripartitus.

Postscutellum elongo-ovatum.

Alæ amplæ; costâ inspissatâ; neuris nonnullis imperfectis instructis, [scilicet postcostali robustâ; externo-mediâ abbreviatâ; neurâ insulatâ discoidali callosâ, nec margini exteriori propinquâ neque ad neuram externo-mediam productâ; neurâ insulatâ apicali (nisi discum luce penetrante) inconspicuâ vel obsoletâ; neurâ subexterno-mediâ item vix distinguendâ; aliisque neuris tribus posticis e basi radiantibus,] quarum ultima elongata ad marginem internum parallela (?).

Abdomen tenue, incurvum.

Pedes elongati, incurvi; postici remoti.

Coxæ [trochanteres] anticæ et intermediæ longissimæ; posticæ breves.

Femora tibiæque longitudine fere cœquales; harum anteriores 4 elongatæ, tenuæ, incurvæ; posticæ breves, apice dilatatæ.

Tarsi bi-articulati, antichi 2 tenuiores; articulo basali subtus lobato, supra concavo ad secundum recipiendum; hoc subclavato.

Species 1. *Elenchus tenuicornis*, Kirb.

Syn. *Stylops tenuicornis*, Kirb.

Trans. Linn. Soc. Lond., Tom. XI. p. 233, 1811.

(*Descriptio Kirbiana ab exemplo mutilato.*)

Aterrimus, oculis sessilibus, antennis tenuioribus piceis, ramis linearibus; alis nigricantibus.

Long. corp. $\frac{1}{2}$ lin. circiter.

In Mus. Brit.

Habitat Angliam: imprimis a Domo. Sowerby Julio ineunte (1811) in Araneâ telâ lectus (*y*); postea a Domo.

(*y*) Kirby, *loc. cit.*

Stephens prope Hertfordiam, æstate fortuite gramina verrente (z).

Altores adhuc ignoti.

Species 2. *Elenchus Walkeri*, Curtis, *op. cit.*

(An species distincta?)

E descriptione Curtisianâ anglice editâ.

Obscure luteus, oculis nigris, lucentibus; alis pallide fuscis, iridescentibus; neuris obscuris, pedibus antennisque pubescentibus.

Habitat Angliam et Hiberniam.

Altores ignoti.

In Angliâ a Dom. Walker graminibus situ Southgate, die 24 Junii captus (a): a Domo. Dale quoque inter flores triticumque rete verrente, situ Glanvilles Wootton (Com. Dorsetiæ) die 11 Junii (b); in Hiberniâ prope Belfast a Domo. Haliday mensibus Junio Julioque (c); a Domo. Templeton quoque eodem fere situ mense Augusto ineunte, in rete inventus quo prius Bombi nidus positus fuerat (d).

Species 3. *Elenchus Templetonii*, Westw.

Trans. Ent. Soc. Lond., ser. 1, Tom. I. p. 173, Tab. XVII. fig. 15.

(*Descriptio Westwoodiana.*)

Minimus; fuscus, thorace valde globoso, oculis magnis nigris, segmentis abdominalibus constrictis, antennarum articulo 5to subclavato et in medio subangustato, articulum referente; elytris clavatis versus apicem nigricantibus; alis latissimis pallidis fuscentibus, nervis obscurioribus; tarsis ut in *El. Walkeri*, Curt. formatis; pedibus antennisque pube tenuissimâ indutis.

(z) Trans. Ent. Soc. Lond., Tom. I. (Acta) p. lxxv.

(a) Curtis, *loc. cit.*

(b) Curtis, *loc. cit.*

(c) Curtis, *loc. cit.*

(d) Curtis, *loc. cit.*; Westwood, *Introd.* Tom. II. p. 304, *Trans. Ent. Soc. Lond.*, ser. 1a, Tom. I. p. 173.

Long. corp. $\frac{2}{3}$ lin. ; expans. alarum fere lin. 1.

In Mus. Oxoniæ, olim Prof. Westwoodii.

Habitat Insulam S. Mauricii ; mense Augusto graminibus nemorum sub tegmine umbrantium, plurimi capti. Altores ignoti (*vide* ante p. 24, note a).

Sub-fam. 2. MYRMECOLACIDES.

(*Character essentialis.*)

Formicidarum, Linn. incolæ.

Adhuc Genus unum, species unica.

Genus 5. MYRMECOLAX, Westwood.

Trans. Ent. Soc. Lond., ser. 2a, Tom. V. p. 418, Tab. I. fig. 1-13 ; Idem, ser. 3a, Tom. I. (Acta) p. 23.

(*E Westwoodii descriptione anglice editâ.*)

Oculi ingentes, hexagonis paucis magnis, interstitiis conice elevatis.

Caput columnis oculiferis subovatis conspicuis utrinque munitum.

Antennæ pseudo-Elenchomorphæ, ramis duobus elongatis valde inæqualibus ; stipite biarticulato ; articulo basali brevi, secundo minori ; tertio in tenuem ramum inferiorem lateraliter producto ; quarto minimo vel ambiguo, e basi præcedentis emergente ; reliquis ramum superiorem triarticulatum constituentibus, articulis subelongatis apice dilatatis, curvatis.

Mandibulæ longæ, tenues, incurvæ, apice acutæ.

Palpi articulo primo minimo ; secundo elongato, compresso, externe curvato.

Prothoracæ brevis annularis ; *mesothoracæ* consimilis, elytra clavata halteriformia ferens.

[*Alæ*, neurâ *mediastinâ* cum costâ quasi contiguâ ; *post-costali* robustâ ; *externo-mediâ* tenui ; neurâ *primâ insulatâ* (*apicali*) ambigua, vel potius, ut videtur, cum *secundâ insulatâ* (*discoidali*) medio in unâ robustâ, apice utrinque recurvâ, conjunctâ. *Areæ* intermediæ inferioris neuris omnibus normalibus quatuor.]

Pedes brevissimi.

Tarsi articulis quatuor.

Species 1. *Myrmecolæ Nietneri*, Westw.

Magnitudine inter *Stylopes* et *Elenchum tenuicornem* intermedia; alarum neuris robustis atris.

In Mus. Oxoniæ, olim Prof. Westwoodii.

Habitat Insulam Taprobanen, e formicâ operariâ montanâ mense Aprili exeunte emergens lectus. Hæ formicæ magnitudine mediocres, saturate piceæ, cum paucis sodalibus sub tegmine petrorum vel lignorum jacentium nidificant; quarum fœminarum expansio alarum $\frac{5}{6}$ uncia.

Sub-fam. 3. XENIDES.

(*Character essentialis.*)

Vespidarum socialium incolæ.

Stylopidæ hujus subfamiliæ ob aliorum transformationes consociatas, *rapidam educationem perficiunt*, quia e larvis nutritoriis ejusdem anni imagines declarantur. Ita per tot menses ab anno præcedente usque ad æstatem ineuntem sequentem, cum fœminis hibernantibus proles retardatur; postea triginta fere dierum spatio, (sicut Polistium Vesparumque transformationes exigunt (*e*), larvæ internæ, vermiformes (exuviis primitivis olim dejectis), inter abdominis segmenta, capite protruso, in pupas mutantur.

Hæ larvæ primitivæ ad illas Polistium, ab ovo in cellulis nuperrime exclusas, ore caudâque quocunque situ fortiter adhærentes, mox introitum operantes, septimo vel octavo die immobiliter, capite recumbente, brevi spatio constrictæ restant; tunc gradatim tegumento dejecto in larvas albas apodas secundarias convertuntur (*f*).

Annotatio. Ex hac subfamiliâ et sequente, ob paucitatem specierum quarum characteres adhuc cognoscuntur, plurimi alumni occultantur quos sub ipso typo generico inter se concordare haud recte assumendum est. Hâc causâ, dum imprimis secundum aliorum affinitates distribuuntur, quibus consociationes reciprocae indicuntur et conservantur, tenebras penetrare novaque discrimina cernere, aliis indagatoribus in futuro curæ sit.

(*e*) Ab ovo usque ad pupam dies 20-21. Pupæ 8-9. (Reaumurius de Poliste Gallico, Tom. VI. Mem. 6. p. 191.) "Ab ovo posito ad larvæ exclusionem dierum numerus incertus. Temperie moderata dies octo aut novem sufficiunt. Anno 1811, die 20 Maii, in cellulis primum octo larvæ prodire. Die 6 Junii in pupam ibant." (Vespæ Gallicæ Historia, Polistes, Latr., Auctore Stephano Disderi in Mem. R. Acad. Taurini, Tom. XXII. 1816.)

(*f*) Trans. Ent. Soc. Lond., ser. 2a, Tom. II. p. 127.

XENIDUM TABULA SYNOPTICA.

Genus 6. XENOS, Rossi.

SPECIES.	SEXUS.	ALTORES.	PATRIA.	BIBLIOGRAPHIA.
1. <i>X. Rossii</i> , Kirby	♂ ♀	<i>Polistes</i> , Latr. (<i>Gallicus</i> , Linn.)	Europa	Tr. Linn. Soc. Lond., Tom. XI. p. 116, 1813.
Syn. <i>X. vesparum</i> , Rossi...				Fauna, Etrus. Mant. App. Tom. II. p. 114, 1794.
Varietas, <i>X. Jurinei</i> mhi.				Men. R. A. Taurino, <i>loc. cit.</i>
2. <i>X. Peckii</i> , Kirby	♂	<i>P. fuscatus</i> , Fab.	America	
_____?	♂ exuv.	<i>P. Americanus</i> , Fab.	Borealis ...	Trans. Linn. Soc. Lond., <i>ut supra.</i>
_____?	♂ exuv. et ♀	<i>P. instabilis</i> , Sauss.	"	Smith, Tr. E. S. Lond., Tom. V. ser. 2a, p. 131.
_____?	♀	<i>P. Hebreus</i> , Fab.	Brasilia	Smith, <i>ibidem.</i>
_____?	♀	<i>P. stigma</i> , Fab.	India	
_____?	♀	<i>P. stigma</i> , Fab.	orientalis ..	Horne, Tr. Zool. Soc. Lond., Tom. VII. p. 171.
3. _____?	♀	<i>P. stigma</i> , Fab.	"	<i>Ibidem.</i>
_____? N.S.	♂	<i>Icaria</i> , Sauss.	Caffraria	In Mus. Oxon. *
_____?	♀	(<i>ferruginea</i> , Fab.)	India	Horne, <i>ubi supra.</i>
_____?	♀	<i>Polybia</i> , Sauss.	orientalis ...	
_____?	♀	(<i>sericea</i> , Oliv.)	Brasilia	Smith, <i>ubi supra.</i>
_____?	♀	<i>Belonogaster</i> , Sauss.	Tripolis	<i>Ibidem.</i>
_____?	♀	(<i>juncus</i> , Fab.)		
_____?	2 ♂ exuv. et ♀	<i>B. rufipennis</i> , De Geer.	Africa	In Mus. Dom. Smithii.
_____?	♀	<i>B. griseus</i> , Fab.	"	<i>Ibidem.</i>
_____?	♂ exuv.	<i>Vespa</i> , Linn.	Ubi (?)	Kirby, Tr. Linn. Soc. Lond., Tom. XI. pp. 90, 118.
_____?	♀	(<i>concolor</i> , Kirby.)	Germania ...	Van Rozer, in Trans. Ent. Soc. Lond. Tom. 1, ser. 1a; Proc. p. lxxiv.
_____?	♀	<i>V. vulgaris</i> , L. (?)		

* Vide p. 36.

[Tot decursis annis nisi e Polistibus duobus gallico et fuscato jamdudum indicatis, *Xenum* marem ex aliis Vespidis educantibus nusquam invenisse, mirabile dictu. Nunc tamen ab alio Poliste nova Xeni species adjicitur, dum reliquarum Vespidarum socialium alumni omnino occultantur.]

Genus 6. XENOS, Rossi.

Rossi, Faun. Etrus, Mant. App. p. 114, 1794. Kirby, Trans. Linn. Soc. Lond., Tom. XI. p. 113, 1813.

(*Descriptio Kirbiana.*)

Mandibulæ, subflexuosæ, medio crassiores, acutæ.

Palpi articulo primo compresso flexuoso; secundo ovato acuto.

Antennæ bipartitæ [4 articulatæ], ramis semiteretibus, exarticulatis, symmetricis; stipite biarticulato; (g) articulis brevissimis; primo sequente paulo longiori, fere obconico, apice oblique truncato; ultimo [2do] ramos duos [art. 3 et 4] semiteretes, superficie interiori plano, exteriori convexo, a basi ad apicem magnitudine sensim decrescentes, symmetricos, emittente.

Oculi hexagonis paucis, vix ultra 50; septis crassis elevatis.

Scutellum [*præscutum*, Aud.] apice subemarginatum.

Postlumbium [*scutellum*, Aud.] declive membranaceum.

Femoralia supra anticè concava.

Pedes coxis anticis brevissimis, reniformibus, trochanteribus posticis coxis vix longioribus; femoribus posticis intus obtusangulis; tarsis [*quadri-articulatis*] articulo extimo integro.

Abdomen corneum, proscutello [*postscutello*, Aud.] longius, vix retractile, segmentis octo: podice minuto lineari adunco supra terminatum, subtus stylo longiusculo lineari reflexo; basi dilatato; apice, ut videtur, fisso (?), ano carnosio.

[*Alæ costâ* cum neurâ mediastinâ proximis; *postcostali* valde abbreviatâ; *areâ costali* nebulosâ, latere interno

(g) Stipite triarticulato secundum Kirbium, quia articulum distinctum pro basi tertii, ut videtur, existimavit. (*loc. cit.*, pp. 114, 121, Tab. IX. fig. 10b).

apicem versus vix circumcinctâ; *neurâ externo-mediâ* sinuatâ, integrâ, ad marginem exteriorem fere attingente: *area intermedia superior* neuris insulatis simplicibus elongatis duabus, de margine exteriore ultra medium alâ retro productis, *apicali* paulum brevior, *discoidali* ad neuram externo-mediam basi plus minusve appropinquante: *area intermedia inferior* neurâ tenuissimâ rectâ (*subexterno-mediâ*) imprimis munita, aliisque tribus magis conspicuis, rectis, subappropinquantis, basi inspissatis, ad marginem exteriorem productis; quarum ultima analis.]

Puparium, oculorum operculis fenestratis; fenestralis hexagonis. (Kirby, *l. c.*, p. 115, Tab. VIII. fig. 5a, 7 a a.)

Species 1. *Xenos Rossii*, Kirb.

Syn. *X. vesparum*, Rossi. (*h*)

Rossi, Fauna Etrus. *loc. cit.*, Tab. VII. fig. B. Jurine, Mem. R. Acad. Sc. Taurini, Tom. XXIII. p. 50, Tab. LXIII. 1818. Idem, Isis, 1832, Tab. XIII. fig. 13. Siebold, Wieg. Archiv. Berolini, 1843; Tab. VII. (Larva, pupa, femina.) Trans. Ent. Soc. Lond., ser. 2, Tom. II. Tab. XV. fig. 1-8; Tab. XVI. fig. 1.

(*Descriptio Rossiana.*)

Totus ater, fuliginosus. *Caput* parvum. *Oculi* valde prominuli, sphaerici, manifeste compositi. *Labium* breve, medio setigerum. *Palpi* duo filiformes longiusculi, articulis duobus inæqualibus, primo brevi rotundo, altero elongato, compresso. *Antennæ* breves, vix capite longiores, duplici ramo instructæ, ramis æqualibus, deflexis, compressis, quasi ensiformibus. *Thorax* lobo antico in collum veluti protractus, et singulariter utrinque ad basin appendiculatus, membranulâ, seu pedunculo instar halterum porrecto, cochleariformi [elytris]; in medio lator, convexus, inæqualis, posticeque admodum elongatus. *Abdomen* fere cylindricum, neque petiolatum neque aculeatum. *Femora tibicæque* posticæ depressæ et breviores. *Tarsi* [articulis] quatuor, fusci, subtus albid.

(*h*) Nominis antiqui mutationem justificat Kirbius, ob hujus et aliarum specierum ejusdem generis originem communem. (Trans. Linn. Soc., *loc. cit.*, p. 116.)

Alæ albæ, longitudine abdominis.

Varietas. (*X. Jurinei*, mihi.) Abdominis segmentis singulis (basali et apicali? exclusis) maculas binas luteas superne exhibentibus. (*Jurine*, ubi supra.)

Habitat Europam; larva in *Poliste gallico* alita.

Species 2. *Xenos Peckii*, Kirb.

Trans. Linn. Soc. Lond., *loc. cit.*, Tab. 8, 9.

(*Descriptio Kirbiana.*)

Nigro-fuscus; antennis ramis semiteretibus dilutioribus, albo-punctatis, ano pallido, pedibus luridis; tarsis fuscis.

CORPUS nigro-fuscum, ex pube brevissimâ et nisi sub lente forti omnino inconspicuâ opacum et quasi velutinum.

CAPUT inter antennis longitudinaliter elevatum et fere carinatum. *Palpi* articulo primo secundo longiori. *Antennæ* capite longiores, ramis majis dilute fuscis, subdiaphanis, punctis minutissimis albis.

TRUNCUS. *Thorax* postice in medio obtusangulus. *Scutellum* [*præscutum*, Aud.] longitudinaliter et late canaliculatum. *Postlumbium* pallidum. *Alæ* cinereo-albidæ; margine crassiori, nervisque nigris. *Pedes* cinerei, vel potius luridi, tarsis nigricantibus.

Abdomen reliquo corpore magis obscurum; ano pallide rufescente.

Long. corp. $1\frac{1}{2}$ lin.

Habitat. Larva in *Poliste fuscato*, Fabr., Americæ septentrionalis.

Species 3. *Xenos* —.

In Mus. Oxoniæ, a Prof. Westwoodio cito describendus. (*Vide Xenidum*, Tab. Synopt. Annot., p. 36).

Sub-fam. 4. PSEUDOXENIDES.

(*Character essentialis.*)

Vespidarum solitarium et Hymenopterorum Fossorium incolæ.

A præcedentibus maxime dissidentes Pseudoxenides apud aliorum larvas in cellulis clausis *diu perstant*, annoque sequente maribus fœminisque declaratis, larvæ primitivæ pariuntur, incunabulisque novis aliorum nidificantium transferuntur.

Quamvis in seipsis Fossores a Vespidis solitariis perspicue discrepant, moribus quoad tempus in quo alterutrorum proles de anno in annum educantur et declarantur plus minusve concordant.

Alumnorum tamen plurimi, ut a reliquiis detectis constat, hodie occultantur. Quare specierum adhuc cognitarum characterum integrorum expositione, ab aliis scriptoribus per específicos sæpe definitorum (comparationis in præsentis unicus modus facilis et opportunus), mihi discriminare visum est. De aliis tamen per orbem dispersis, aliorum omnino divergentium, ut ab marium exuviis, fœminarumve tegumentis derelictis, in tabulâ sequente exhibetur, nondum opinari datum est.

PSEUDOXENIDUM TABULA SYNOPTICA.

Genus 7. PSEUDOXENOS.

SPECIES.	SEXUS.	ALTORES.	PATRIA.	BIBLIOGRAPHIA.
1. <i>P. Schaumi</i> , n. s.	♂	<i>Odynerus</i> , Latr. (<i>parietum</i> , Linn.) <i>Syn. Vespa 6-fasciata</i> , Ros. <i>Vespa aucta</i> , Fab. <i>O. deflendus</i> , Saund.	Corcyra	In Mus. nostro. Rossi, Fauna Etrus. Mant. App. p. 116. Saussure Vesp. Sol. Tom. I. p. 130.
2. <i>P. Heydenii</i> , Saund. ...	♂ ♀	<i>Syn. O. viduus</i> , (?) Schæff. <i>Epipone</i> , Kirb. (<i>terripes</i> , Shuck.)	Epirus et Corcyra	Trans. Ent. Soc. Lond., ser. 2a, Tom. II. p. 141. Kirehner Catal. Hymenop. Eur. Vindob. 1867. Trans. Ent. Soc. Lond., ser. 2a, Tom. II. p. 141; Tab. XV. fig. 9-15.
3. <i>P. Klugii</i> , Saund.	♂		Epirus	

Genus 8. PARAXENOS.

SPECIES.	SEXUS.	ALTORES.	PATRIA.	BIBLIOGRAPHIA.
1. <i>P. Erberi</i> , n. s.	♂ ♀	<i>Bembecinus</i> , Costa	Corcyra	In Mus. nostro.
2. <i>P. Coreycicus</i> , n. s.	3 ♂	(<i>Larra</i>) <i>peregrinus</i> , Sm. Var. <i>bituberculatus</i> , Forst	Corcyra	In Mus. nostro.
3. <i>P. Sieboldii</i> ,	♀ ♀	<i>Epipone spinipes</i> , L. <i>Ammophala sabulosa</i> , L.	Gallia	Dufour; Ann. Sc. Nat. 1837, ser. 2a, Tom. VII.
<i>Syn. X. Sphæcidarum</i> , Sieb.	♂ ♀	Idem, et <i>Miscus campe-</i> <i>tris</i> , Latr.	Germania ...	Siebold; N. Schrift. d. Nat. Gesch. Danz. 111, 2, 1839, p. 172.
4. <i>P. Westwoodii</i> , Templ..	♂	<i>Sphaer</i> , Fab. (<i>aurocapilla</i> , Templ.)	Brasilia	Trans. Ent. Soc. Lond., ser. 1a, Tom. III. p. 51.

PSEUDOXENIDUM SPECIES OCCULTÆ.

1. A Vespidis solitariis educatæ.

ALTORUM.		SPECIES.	ALUMNI IGNOTI.	PATRIA.	BIBLIOGRAPHIA.
GENUS.					
Paragia, Shuck		<i>decipiens</i> , Shuck	♂ exuv.	Australia,....	Smith, Tr. Ent. Soc. Lond., ser. 2a, Tom. V (Acta) p. lxxxviii.
" Psilglossa, mili *		<i>tricolor</i> , Smith	♀	"	In Mus. Dom. Smithii.
Eumenes, Latr.		<i>Odyneroides</i> , Saund.	♂ immat.	Epirus	In Mus. nostro.
"		<i>petiolata</i> , Fab.	♂ exuv. et ♀	India	Smith, Tr. Ent. Soc. Lond., ser. 2a, Tom. V. p. 130.
"		<i>pomiformis</i> , Rossi	♂ pupa	Nicea	In Mus. Oxon.
Rhynchium, Sauss.		<i>flavomarginatum</i> , Sm.	2 ♀	China	Smith, Tr. Ent. Soc. Lond., ser. 2a, Tom. I, p. 72.
Odynerus, Latr.?	♂ exuv.	Brasilia	Smith, Tr. Ent. Soc. Lond., ser. 2a, Tom. V. p. 130.

* Pro *Raphiglossæ* Sectione B, in Trans. Ent. Soc. Lond., ser. 2a, Tom. I. p. 72; cui nomen *Stenoglossa* a Dom. Sausstrico in Vespidarum solitarium egregiâ Monographiâ (Tom. I. p. 4) anno 1852 dedicatum fuit. Hoc nomen tamen a Barone Chaudoirco in 1848 ad Coleopterorum Genus prius in Bull. Soc. Nat. Mosc. (l. p. 117) appropriatum fuit; igitur in Vespidis a nomine *Psilglossa* substitui.

2. Ab Hymenopteris Fossoribus educatæ.

ALTORUM.		SPECIES.	ALUMNI IGNOTI.	PATRIA.	BIBLIOGRAPHIA.
GENUS.					
<i>Ammophila</i> , Kirb.	<i>holosericea</i> , Fab.	2 ♂ exuv. et ♀	Sicilia	Smith, Tr. Ent. Soc. Lond., ser. 2a, Tom. V. p. 129.	
"	<i>capensis</i> , St. Farg.	♂ exuv.	Tunctum	<i>Ibidem.</i>	
"	<i>ferruginipes</i> , St. Farg.	♂ exuv.	Gambia	<i>Ibidem.</i>	
"	<i>atripes</i> , Smith	♀	India	In Mus. Brit.	
"	—sp. (?)	♀	Brasilia	In Mus. Oxon.	
<i>Spher</i> , Fab.	<i>petiolata</i> , Smith	♂ exuv.	Georgia	Smith, <i>ubi supra</i> .	
"	<i>flavipes</i> , Smith	♂ exuv.	America borealis	<i>Ibidem.</i>	
"	<i>tibialis</i> , Fab.	♂ exuv. et ♀	Epirus	In Mus. W. W. Saundersii.	
<i>Paraspheu</i> , Sm.	<i>albisecta</i> , St. Farg.	♀	India	In Mus. Dom. Smithii.	
"	<i>ferrens</i> , Fab.	♀	India	In Mus. Brit. (ab auct. lecta).	
<i>Peloponcus</i> , Latr.	<i>chilensis</i> , Spin.	♂ exuv.	Chile	<i>Ibidem.</i>	
"	<i>laboriosus</i> , Smith	2 ♀	Insula Arn.	Smith, <i>ubi supra</i> .	
"	<i>deformis</i> , Smith	♀	Shanghai	<i>Ibidem.</i>	
"	<i>intrudens</i> , Smith	♀	Celebes	<i>Ibid.</i> , p. 133.	
"	<i>fasciatus</i> , St. Farg.	♂ exuv.	Chile	In Mus. Dom. Smithii.	
"	<i>flavo-fasciatus</i> , Sm.	♂ exuv.	Celebes	<i>Ibidem.</i>	

Genus 7. PSEUDOXENOS.

(Characteres e *P. Schaumii desumpti.*)

Palpi articulo basali brevi, robusto, secundo elongato, subcylindrico, hirtio, deflexo.

Mandibulæ elongatæ, ensiformes.

Antennæ 4-articulatæ; articulo *basali* brevi, apice dilatato, angulo interno porrecto; *secundo* transversali, minimo; *tertio* in ramum internum subrectum, compressum, uni formem, apice subobtusum, producto; *quarto* lamelliformi, simillimo, longitudine fere coæquali, ad basin præcedentis inserto, in illum recumbente, spatio libero vix basi relicto.

Alæ costæ dimidio basali inspissato; *neurâ postcostali* abbreviatâ; *areâ costali* latâ nebulosâ, ultra *neuras* productâ; *neurâ externo-mediâ* valde sinuatâ, ultra medium *alæ* tenuissimâ, ad marginem exteriorem vix attingente: *area intermedia superior* *neurâ primâ insulatâ* duplicatâ abbreviatâ; *secunda insulatâ* elongatâ, valde sinuatâ, simplice, de margine exteriori usque ad *neuram* externo-medium basin versus fere attingente: *area intermedia inferior* *neurâ primâ* (subexterno-mediâ) gracillimâ, aliisque tribus simplicibus, basi inspissatis, ultra medium tenuissimis; quarum ultima analis.

Pedes omnes elongati, graciles; trochanteres anteriores 4 femoribus fere coæquales; postici 2 breviores; tibiæ tenues, elongatæ, apice vix dilatatæ; tarsi nitidi, articulis apice angulis prominulis, basi tenuissimis; articulo primo paulo longiore, reliquis longitudine diminuentibus, apicali rotundato integro.

Puparium, operculo oculorum situ fenestralis paucis minutissimis instructo.

Species 1. *Pseudoxenos Schaumii*, n. s.

Niger; antennis, palpis, elytris, pedibusque brunneis; abdomine flavescente, segmento singulo, basali excluso, (septem) disco dorsali ventralique vittâ transversali abbreviatâ brunneâ: processu anali piceo: alis hyalinis, neuris piceis; areâ costali opacâ. *Mas.*

Long. corp. 1 $\frac{3}{8}$ lin.

Habitat Insulam Corcyram, mense Octobri ineunte in pupario cum altore *Odynero parietum*, L. semel lectus; et Illustri nomini, nulli secundo, dicatus.

Species 2. *Pseudozenos Heydenii*, Saund.

Trans. Ent. Soc. Lond., ser. 2a, Tom. II. p. 141, Tab. XV. fig. 15-24.

Aterrimus; antennarum rami tuberculis minutis albis dense bullati; alis hyalinis neuris piceis, pedibus luteis.
Mas.

Long. corp. 1 lin.

Habitat Epirum et Insulam Corcyram, Odyneri deflendi alumnus; a Julio ineunte usque ad Octobris idus, mares in pupariis cum altoribus lecti; fœminæ parturientes quoque diebus Julii decimo tertio, Augusti nono, et Octobris undecimo, cum eâdem Odyneri specie prehensæ.

Species 3. *Pseudozenos Klugii*, Saund.

Ibid., p. 142, Tab. XV. figs. 9-15.

Præcedente paulo major; antennis subtilioribus, pedibus pallidis.

Habitat Epirum, cum Odynero *lævipede*, Shuck. (i), in rubis exsiccatis, cellulas limosas construente, ex quibus imagines, cum alumnorum pupariis expositis, Maio mense exeunte evadunt.

Genus 8. PARAXENOS.

Palpi articulo basali crasso, arcuato; secundo cylindrico, hirtio, deflexo.

Mandibulæ basi latiores, interne fortiter emarginatæ.

Antennæ 4-articulatæ; articulo primo brevi, apice dilatato, angulo interno prominulo, tertii cubitum versus porrecto: *secundo* minimo, subcuneiformi, lateribus angulatis: *tertio* in ramum internum producto, basi externè dilatatum ad quartum recipiendum, deinde subito rectangulariter reflexo, reliquo compresso, distorto, basi tumido, apice subtiliore, obtuso: *quarto* e basi præcedentis retrorsum emergente, in illum inflexo, spatio libero intermedio basi relicto, similiter compresso, basi dilatato, apice subobtusio, longitudine præcedentem plus minusve excedente.

(i) *O. rubicola*, Dufour et Perris, Ann. Soc. Ent. Fr., Tom. IX. p. 23, 1840.

Alæ costæ dimidio basali cum neurâ mediastinâ proximo sed distincto; *postcostali* remotâ subabbreviatâ; *areâ costali* latâ nebulosâ, ultra neuras productâ; neurâ externo-mediâ sinuatâ, dimidio apicali duplicatâ, tenuissimâ: *area intermedia superior* neuris insulatis binis duplicatis, de margine externo retro productis; quarum discoidales paulum longiores, a neurâ externo-mediâ longe abstantes: *area intermedia inferior* neuris rectis tenuibus; primâ (subexterno-mediâ) gracili; aliis e basi radiantibus, subapproximatis, tribus, basi paulum inspisatis, deinde quasi duplicatis, quarum ultima analis.

Pedes antici trochanteribus femoris tibiisque longitudine fere æqualibus; tarsorum articulis 4, fere similibus, basali robustiore, apicali tenuiore; *intermedii* fere consimiles; *postici* coxis reniformibus, trochanteribus subovatis, robustis; tibiis tenuioribus.

Puparium, operculo oculorum situ fenestralis paucis minutissimis instructo.

Species 1. *Paraxenos Erberi*, n. s.

Elongatus, ater, pedibus fuscis, antennarum ramis longitudine fere coæqualibus.

Long. corp. $\frac{5}{8}$ lin.

In Mus. nostro.

Habitat Insulam Corcyram; larva in Bembecino (Larra) peregrino Smithii (var. *B. bituberculato*, Forsteri) alita; mares in pupariis, fœminæque, cum altoribus prope latebras, in sabuletis, mense Maio exeunte crebro lecti; ubi a diligente Entomologo J. Erbero Vindobonensi (mihi sodale et amico cui species dicatur) imprimis detecti.

Species 2. *Paraxenos Corcyricus*, n. s.

A præcedente differt antennis brevioribus, ramis latioribus, pedibus cunctis longissimis, tenuibus, luteis.

Long. corp. $\frac{5}{8}$ lin.

Habitat Insulam Corcyram cum Odynero *spinipede*, L., cujus exemplar, marium puparia quatuor sub abdominis segmentis 2o, 3o, 4o, et 5o, superne alternatim dextrâ sinistrâque exhibens, in sabuletis die 16 Maii lectum; e quibus die 22 ejusdem mensis imagines tres obtinui.

Species 3. *Paraxenos Sieboldii*.

Syn. *Xenos Sphecidarum*, Dufour, Ann. Sc. Nat. Parisiis: ser. 2, Tom. VII. p. 19, 1837 (fœmina). Siebold; N. Schrift. d. Naturforsch. Gesellsch. in Danz. 111-2, p. 72, 1839, Tab. III. fig. 68 (mas.), fig. 62, (fœmina) commus fig. 70 (larva primitiva).

(*E descriptione Sieboldianâ germanice editâ.*)

Fuliginosus; pedibus piceis; alis lacteis, margine antico brunneo; antennarum ramis lateraliter compressis, interno semper paulo longiore.

Long. corp. $1\frac{1}{2}$ lin.

Expans. alar. 2 lin.

Primum cum *Ammophilâ sabulosâ*, L., a Dom. L. Dufourio, Galliâ meridionali, mense Augusto (1834) fœminæ binæ detectæ fuerunt.

Mox quoque cum *Ammophilâ* ipsâ et *Misco campestri* Latr. ab egregio Entomologo Dre. C. T. Sieboldio in Germaniâ, mares fœminæque cum prole, haud raro, a mense Junio usque ad æstatem exeuntem reperiebantur; maribus antennarum articuli furcati, ut in tabulâ *loc. cit.* delineantur, (*k*) cum typo generico veri *Paraxeni* concordantes.

Ob tamen originem communem cum plurimis aliis Sphecidarum incolis, hæc species (velut in *X. Vesparum* casu) distinctionis gratiâ in honorem Clar. Viri dicatur.

Species 4. *Paraxenos Westwoodii*, Templ.

Xenos Westwoodii, Templ. Trans. Ent. Soc. Lond., ser. 1a, Tom. III. p. 51, Tab. IV.

(*E descriptione Templetonianâ anglice editâ.*)

Antennæ subrobustæ, 4-articulatæ; articulo *basali* brevi, subcylindrico, basin versus subcontracto, apice

(*k*) Antennarum stipes triarticulatus secundum descriptionem (*l. c.*, p. 79) vix abnormis opinor (*vide* p. 9, *ante*, Annotatio *g*).

dilatato, interne porrecto, subtriangulari; *secundo* minimo, medio constricto, subtus quasi cyathiformi, ubi articulus tertius affixus; illis hirsutis, reliquis duobus tessellatis; *tertio* compresso, elongato, medio dilatato, apice rotundato; basi subito rectangulariter divertente, acetabulo basali ad quartum sustinendum; *quarto* retrorsum et supra partem prolongatam tertii recumbente, longitudine fere quartâ parte excedente, et similiter medio, basique postice paulum dilatato.

Mandibulæ elongatæ, angustæ, vix arcuatæ, apice valde acutæ, incurvæ.

Palpi (*tri*-?) [*bi*-] articulati; articulo basali (*minimo*?; *secundo*?) magno, tumido, paulo retrorsum curvato; apicali parvo, cylindrico, dense hirto.

Pedes antichi tenues, breviores; coxis [trochanteribus?] brevibus, tumidis, curvatis; femoribus paulo longioribus, subtriangularibus; *tibiis* elongatis, clavatis; *tarsis* 4-articulatis, articulo basali longiore; reliquis longitudine diminuentibus, bilobatis, appendiculatis, subtus marginibusque hirsutis. Vesiculæ desunt.

Long. corp. $2\frac{3}{4}$ lin.

Habitat Brasiliam, cum Sphece aurocapillâ Templetoni.

Tot alioribus jam citatis quorum Stylopidarum alumni nondum deteguntur, aliisque adjiciendis, vasta regio exploranda manet, ubi plurima arcana elicienda occultantur.

Divisio B. HOMOPTEROBIÆ.

Sub-fam. 5. ———.

Insectum Homopteron, Fulgoridarum Familiæ, ex Archipelago Indico in Musæo Hopeiano Oxoniæ conservatum, Stylopidarum exuvias exhibens, a Professore Westwoodio annotatum, (*l*) cujus descriptionem fusiorem ab ipso Cel. Auctore mox exoptamus, citare oportet; quod interim in divisionem exclusivam collocamus.

(*l*) Trans. Ent. Soc. Lond., ser. 3a, Tom. V. (Acta) p. lxxxviii.